

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

FLIGHT ENGINEER
PERFORMANCE QUALIFIED

AFSC 1A1X1C

OSSN 2342

JUNE 1999

19990708 144

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION AND TRAINING COMMAND
1550 5TH STREET EAST
RANDOLPH AFB, TEXAS 78150-4449

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DISTRIBUTION FOR AFSC 1A1X1C OSR

	<u>OSR</u>	ANL <u>EXT</u>	TNG <u>EXT</u>	JOB <u>INV</u>
AFOMS/OMDQ	1			
AFOMS/OMYXL	10		5	10
AL/HRMM	2			
AL/HRTE	1		1	
ARMY OCCUPATIONAL SURVEY BRANCH	1			
CCAF/AYX	1			
DEFENSE TECHNICAL INFORMATION CENTER	2			
HQ ACC/XOSE	3		3	
HQ AETC/DPSE	3		3	
HQ AFMC/DPE	3		3	
HQ AFPC/DPAAD4	1			
HQ AFPC/DPPAC	1			
HQ AFSOC/DPPMT	2		2	
HQ AMC/DPPET	1			
HQ PACAF/DPPET	3		3	
HQ USAF/XOOA	1		1	
HQ USAFE/DPATTJ	3		3	
HQ USMC/STANDARDS BRANCH	1			
NAVMAC	1			
97 OSS/OST (ALTUS AFB OK 73523-5053, ATTENTION: TSGT LIESEMEYER)	3	1	3	1
97 OSS/OST (ALTUS AFB OK 73523-5053, ATTENTION: QUALITY ASSURANCE)	1		1	

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
PREFACE	ix
SUMMARY OF RESULTS	xi
INTRODUCTION	1
Background	1
SURVEY METHODOLOGY	2
Inventory Development	2
Survey Administration	3
Survey Sample	3
Task Factor Administration	3
SPECIALTY JOBS (Career Ladder Structure)	6
Overview of Specialty Jobs	7
Group Descriptions	7
Comparison of Current Jobs to Previous Survey Findings	11
ANALYSIS OF DAFSC GROUPS	14
Skill-Level Descriptions	14
Summary	49
TRAINING ANALYSIS	60
First-Enlistment Personnel	60
Training Emphasis (TE) and Task Difficulty (TD) Data	60
JOB SATISFACTION ANALYSIS	64
IMPLICATIONS	69

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS
(Tables, Figures, Appendices)

	PAGE NUMBER
TABLE 1 MAJCOM REPRESENTATION OF ACTIVE DUTY AFSC 1A1X1C SAMPLE	4
TABLE 2 PAYGRADE DISTRIBUTION OF SURVEY SAMPLE FOR ASFC 1A1X1C.....	5
TABLE 3 RELATIVE PERCENT TIME SPENT PERFORMING DUTIES BY SPECIALTY JOB FOR AFSC 1A1X1C.....	9
TABLE 4 SELECTED BACKGROUND DATA FOR SPECIALTY JOBS FOR AFSC 1A1X1C.....	10
TABLE 5 SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1995 SURVEYS	12
TABLE 6 DISTRIBUTION OF SKILL LEVEL DAFSC GROUP MEMBERS ACROSS THE SPECIALTY JOB (PERCENT RESPONDING)	15
TABLE 7 RELATIVE PERCENT TIME SPENT ON DUTIES BY 5-SKILL LEVEL DAFSC GROUPS	16
TABLE 8 REPRESENTATIVE TASKS PERFORMED BY ALL 1A151C PERSONNEL	17
TABLE 9 REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A151C PERSONNEL	18
TABLE 10 REPRESENTATIVE TASK PERFORMED BY ANG 1A151C PERSONNEL.....	19
TABLE 11 REPRESENTATIVE TASKS PERFORMED BY AFRC 1A151C PERSONNEL.....	20
TABLE 12 TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY AND ANG DAFSC 1A151C PERSONNEL (PERCENT MEMBERS PERFORMING).....	21
TABLE 13 TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY AND AFRC DAFSC 1A151C PERSONNEL (PERCENT MEMBERS PERFORMING).....	22
TABLE 14 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG AND AFRC DAFSC 1A151C PERSONNEL (PERCENT MEMBERS PERFORMING).....	23
TABLE 15 RELATIVE PERCENT TIME SPENT ON DUTIES BY 7-SKILL LEVEL DAFSC GROUPS	25
TABLE 16 REPRESENTATIVE TASKS PERFORMED BY ALL 1A171C PERSONNEL	26
TABLE 17 REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A171C PERSONNEL	27
TABLE 18 REPRESENTATIVE TASKS PERFORMED BY ANG 1A171C PERSONNEL	28
TABLE 19 REPRESENTATIVE TASKS PERFORMED BY AFRC 1A171C PERSONNEL.....	29

TABLE OF CONTENTS (CONTINUED)
 (Tables, Figures, Appendices)

	PAGE NUMBER
TABLE 20 TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY DAFSCs 1A151C AND 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	30
TABLE 21 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG DAFSCs 1A151C AND 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	31
TABLE 22 TASKS WHICH BEST DIFFERENTIATE BETWEEN AFRC DAFSCs 1A151C AND 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	32
TABLE 23 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD AND ANG DAFSC 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	33
TABLE 24 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD AND AFRC DAFSC 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	34
TABLE 25 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG AND AFRC DAFSC 1A171C PERSONNEL (PERCENT MEMBERS PERFORMING)	35
TABLE 26 RELATIVE PERCENT TIME SPENT ON DUTIES BY 9-SKILL LEVEL DAFSC GROUPS	36
TABLE 27 REPRESENTATIVE TASKS PERFORMED BY ALL 1A190 PERSONNEL	38
TABLE 28 REPRESENTATIVE TASKS PERFORMED BY AD 1A190 PERSONNEL	39
TABLE 29 REPRESENTATIVE TASKS PERFORMED BY ANG 1A190 PERSONNEL	40
TABLE 30 REPRESENTATIVE TASKS PERFORMED BY AFRC 1A190 PERSONNEL	41
TABLE 31 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD DAFSCs 1A171C AND 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	42
TABLE 32 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG DAFSCs 1A171C AND 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	43
TABLE 33 TASKS WHICH BEST DIFFERENTIATE BETWEEN AFRC DAFSCs 1A171C AND 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	44
TABLE 34 TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY AND ANG DAFSC 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	45
TABLE 35 TASKS WHICH BEST DIFFERENTIATE BETWEEN ACTIVE DUTY AND AFRC DAFSC 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	46
TABLE 36 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG AND AFRC DAFSC 1A190 PERSONNEL (PERCENT MEMBERS PERFORMING)	47
TABLE 37 RELATIVE PERCENT TIME SPENT ON DUTIES BY CEM-SKILL LEVEL DAFSC GROUPS	48

TABLE OF CONTENTS (CONTINUED)
(Tables, Figures, Appendices)

	PAGE NUMBER
TABLE 38 REPRESENTATIVE TASKS PERFORMED BY ALL 1A100 PERSONNEL.....	50
TABLE 39 REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A100 PERSONNEL	51
TABLE 40 REPRESENTATIVE TASKS PERFORMED BY ANG 1A100 PERSONNEL.....	52
TABLE 41 REPRESENTATIVE TASKS PERFORMED BY AFRC 1A100 PERSONNEL	53
TABLE 42 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD DAFSCs 1A190 AND 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	54
TABLE 43 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG DAFSCs 1A190 AND 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	55
TABLE 44 TASKS WHICH BEST DIFFERENTIATE BETWEEN AFRC DAFSCs 1A190 AND 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	56
TABLE 45 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD AND ANG DAFSC 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	57
TABLE 46 TASKS WHICH BEST DIFFERENTIATE BETWEEN AD AND AFRC DAFSC 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	58
TABLE 47 TASKS WHICH BEST DIFFERENTIATE BETWEEN ANG AND AFRC DAFSC 1A100 PERSONNEL (PERCENT MEMBERS PERFORMING)	59
TABLE 48 RELATIVE PERCENT TIME SPENT ON DUTIES BY AD 1-48 MONTHS TICF MEMBERS (N=215).....	62
TABLE 49 REPRESENTATIVE TASKS PERFORMED BY AD PERSONNEL WITH 1-48 MONTHS TICF	63
TABLE 50 TASKS RATED HIGHEST IN TRAINING EMPHASIS	65
TABLE 51 TASKS RATED HIGHEST IN TASK DIFFICULTY	66
TABLE 52 COMPARISON OF CURRENT SURVEY AND PREVIOUS SURVEY BY TICF GROUPS (PERCENT MEMBERS RESPONDING)	67
TABLE 53 COMPARISON OF JOB SATISFACTION INDICATORS BY ACTIVE DUTY SPECIALTY JOBS (PERCENT MEMBERS RESPONDING).....	68
FIGURE 1 1A1X1C SPECIALTY JOBS.....	8
FIGURE 2 1A1X1C FIRST ENLISTMENT PERSONNEL (N=215).....	61
APPENDIX A SELECTED REPRESENTATIVE TASKS PERFORMED BY CAREER LADDER JOB.....	71

THIS PAGE INTENTIONALLY LEFT BLANK

PREFACE

This report presents the results of an Air Force Occupational Survey of Flight Engineer-Performance Qualified career ladder, Air Force Specialty Code (AFSC) 1A1X1C. Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

The survey instrument was developed by First Lieutenant Denise Minerva, Inventory Development Specialist, with computer programming support provided by Mr. Tyrone Hill. First Lieutenants Charlie L. Law and Diedre N. Presley, Occupational Analysts, analyzed the data and wrote the final report. Administrative support was provided by Ms. Dolores B. Navarro. This report has been reviewed and approved by Lt Col Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to AFOMS/OMYXI, 1550 5th Street East, Randolph Air Force Base, Texas 78150-4449, or by calling DSN 487-5543. For information on the Air Force occupational survey process or other on-going projects, visit our web site at <http://www.omsq.af.mil>.

GEORGE KALIWAI III, Lt Col, USAF
Commander
Air Force Occupational Measurement Sq

JOSEPH S. TARRELL
Chief, Occupational Analysis Flight
Air Force Occupational Measurement Sq

THIS PAGE INTENTIONALLY LEFT BLANK

SUMMARY OF RESULTS

1. **Survey Coverage:** The Flight Engineer (Performance Qualified) career ladder was surveyed to obtain current task and equipment data for use in evaluating current training programs. Survey results are based on responses from 754 Active Duty respondents (48 percent of total number surveyed). Additionally, there were 275 Air Force Reserve Command (AFRC) (26 percent of total number surveyed) and 353 Air National Guard (ANG) (70 percent of total number surveyed) included in the survey sample. The survey sample satisfactorily represents the overall career ladder population.
2. **Specialty Jobs:** One job was identified in the career ladder analysis. The job identified was the Flight Engineer Job.
3. **Career Ladder Progression:** Skill-level progression for members of this AFSC is not typical of most career ladders. Personnel at the 5- and 7-skill levels perform many tasks in common and both groups spend the vast majority of their relative job time performing general flight engineer activities. Although 9- and CEM-skill level members perform a wide variety of supervisory and management activities, senior level personnel still spend most of their time performing the technical tasks of the 1A1X1C career field.
4. **Training Analysis:** The Specialty Training Standard (STS) and Plan of Instruction (POI) were not matched for the current survey.
5. **Job Satisfaction:** In general, job satisfaction among AFSC 1A1X1C personnel is high. When compared to the previous study, the current survey respondents had similar job satisfaction. Reenlistment intentions for the current survey respondents are substantially lower than the previous survey.
6. **Implications:** Survey results indicate the present classification structure is supported by survey data. The career ladder progression is atypical, with personnel still performing technical tasks at the 9- and CEM-skill levels. Responses by sample personnel reflect positive feelings toward their jobs and training.

THIS PAGE INTENTIONALLY LEFT BLANK

OCCUPATIONAL SURVEY REPORT (OSR)
FLIGHT ENGINEER – PERFORMANCE QUALIFIED
(AFSC 1A1X1C)

INTRODUCTION

This is a report of an occupational survey of the Flight Engineer-Performance Qualified career ladder, AFSC 1A1X1C, conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS). This survey data will ensure current data for use in evaluating the effectiveness of training within the career ladder and technical training materials. The last OSR was published in May 1995.

Background

As described in the AFMAN 36-2108 *Airman Classification*, dated 31 October 1998, Flight Engineer personnel in this career ladder perform aircraft visual inspections and in-flight duties. Operates and monitors engine and aircraft systems controls, panels, indicators and devices. Computes and applies aircraft weight, balance, and performance data. Determines and verifies passenger, cargo, fuel, and emergency and special equipment distribution and weight. They operate and monitor engine and aircraft system controls and indicators and perform engine starts. Organizes flight engineering standardization, qualification, and other required flight engineer logs, reports, and records for accuracy, completeness, format, and compliance with current directives. Further responsibilities include evaluation of flight engineer activities and technical problems encountered by operating units.

Primary entry into the career ladder is lateral after achieving the 5- or 7-skill level in the following specified AFSCs: 1A0, 1A2, 1A5, 2A1, 2A3X1/X3, 2A4X1/2, 2A5, 2A6, or 2M0; or by possession of a valid Federal Aviation Administration (FAA) Flight Engineer certificate with a jet or turboprop rating, or valid FAA aircraft and power plant license. Initial 3-skill level training for AFSC 1A1X1C personnel is currently provided through the Basic Flight Engineer (BFE) Course taught at Altus AFB OK. This course is 5 weeks, 4 days in length and provides the airman with ground instruction on mathematics, atmosphere and physics, aerodynamics, aircraft performance and performance log, engine theory, weight and balance, basic chart reading, winds, critical field length and inflight and nonstandard landing data.

Entry into AFSC 1A1X1C requires a General Armed Forces Vocational Aptitude Battery score of General 55 and a Strength Factor requirement of "K" (weight lift of 70lbs).

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) OSSN 2342, dated June 1998. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, pertinent tasks from the previous survey instrument, and data from the last OSR. The preliminary task list was refined and validated through personal interviews with 49 subject-matter experts (SMEs) at the technical training location and at the following operational bases:

<u>BASE</u>	<u>UNIT VISITED</u>		
Altus AFB OK	56 AS	97 OSS	
	57 AS	97 OG	
Tinker AFB OK	552 OSS	965 AAC	963 AAC
Little Rock AFB AR	50 AS	53 AS	
	61 AS	62 AS	
	154 TS	314 OG	
Andrews AFB MD	1 AS	89 AS	
Dover AFB DE	3 AS	9 AS	436 OSS
	709 AS	512 OG	
McGuire AFB NJ	2 ARS	6 AS	13 AS
			32 ARS
Hurlburt Fld FL	16 SOW		
Pennsylvania ANG	193 OSS		

The resulting JI contains a comprehensive listing of 670 tasks grouped under 22 duty headings and a background section requesting such information as grade, duty title, organizational level, job title, type of mission flown, aircraft current qualification, aircraft previous qualification, and forms used.

Survey Administration

From September 1998 through February 1999, Base Training Offices administered the inventory to 3,138 eligible AD, ANG, and AFRES AFSC 1A1X1C personnel. To qualify for the survey, personnel were required to hold a duty AFSC of 1A1X1C. Excluded from the survey were the following (1) hospitalized personnel; (2) personnel in transition for a permanent change of station (PCS); (3) students; (4) personnel retiring within the time the inventories were administered to the field; and (5) personnel with less than 6 weeks on the job. Job incumbents were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center, Randolph AFB TX.

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale, showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount time spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time spent for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across major commands (MAJCOMs) and paygrade groups. All eligible AFSC 1A1X1C personnel were mailed survey booklets. Table 1 reflects the percentage of assigned AFSC 1A1X1C personnel as of May 1998. The 1,383 respondents in the final sample represent 41 percent of the total assigned personnel. Table 2 reflects the paygrade and MAJCOM distribution for AFSC 1A1X1C personnel.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. While most participants in the survey process completed an USAF JI, selected senior AFSC 1A1X1C personnel were also asked to complete booklets rendering judgments on task training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the JIs. The information gained from these task factor data is used in various analysis and is a valuable part of the training decision process.

TABLE 1
MAJCOM REPRESENTATION OF ACTIVE DUTY AFSC 1A1X1C SAMPLE

<u>MAJOR COMMAND</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AMC	31	29
AETC	5	7
ACC	5	7
PACAF	2	3
AFSOC	4	2
AFMC	2	2
USAFE	1	2
EUR	*	*
AFRC	33	27
AG	16	20
**OTHER	*	*

* Less than 1 percent

** Other includes AFPC, AFSPC, AFRES, ELM, and ZBF

	<u>AFSC 1A1X1C ACTIVE DUTY</u>	<u>AFSC 1A1X1C AFRC</u>	<u>AFSC 1A1X1C ANG</u>
TOTAL ASSIGNED	1793	1161	545
TOTAL ELIGIBLE	1563	1073	502
TOTAL IN SAMPLE	754	353	275
PERCENT OF ASSIGNED IN SAMPLE	42	30	51
PERCENT OF ELIGIBLE IN SAMPLE	48	33	55

* Assigned strength as of September 1998

** Excludes personnel in PCS, student, or hospital status, or less than 6 weeks on the job

TABLE 2

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE FOR AFSC 1A1X1C

PAYGRADE	ASSIGNED <u>SAMPLE</u>	PERCENT OF ACTIVE DUTY <u>SAMPLE</u>		PERCENT OF ANG <u>SAMPLE</u>		PERCENT OF AFRC <u>SAMPLE</u>	
		ASSIGNED	SAMPLE	ASSIGNED	SAMPLE	ASSIGNED	SAMPLE
E-1 to E-3	1	0	0	0	0	0	0
E-4	15	12	4	3	2	2	2
E-5	34	36	30	23	15	16	16
E-6	22	23	33	32	42	36	36
E-7	21	21	23	25	36	38	38
E-8	5	6	5	11	4	5	5
E-9	2	2	5	6	1	3	3

* Assigned strength as of September 1997

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 46 senior AFSC noncommissioned officers (NCOs) who completed a TE booklet were asked to select tasks they felt required some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided at resident technical schools, field training detachments, mobile training teams, formal on-the-job-training (OJT), or any other organized training method. The interrater reliability was excellent, indicating very strong agreement among the 46 raters as to which tasks required some form of structured training and which did not. The average TE rating was 3.21, with a standard deviation of 2.00. Any task with a TE rating of 5.21 or above is considered to have high TE.

Task Difficulty (TD). TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 44 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (extremely low to extremely high). Interrater reliability was acceptable, with high agreement. Ratings were standardized, so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TE and TD ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

SPECIALTY JOBS (Career Ladder Structure)

The occupational analysis process begins with an examination of the career ladder structure. The structure of jobs within the Flight Engineer-Performance Qualified career ladder was examined based on similarity of tasks performed and the relative percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

The first step in the analysis process is to identify the structure of the career ladder in terms of the jobs performed by the respondents. The Comprehensive Occupational Data Analysis Program (CODAP) creates an individual job description for each respondent based on the tasks performed and relative amount of time spent on the tasks. The CODAP automated job clustering program then compares all the individual job descriptions, locates the two descriptions with the most similar tasks and time spent ratings, and then combines them to form a composite job description. In successive stages, new members are added to the initial group or new groups are formed based on the similarity of tasks performed and time spent rating.

The basic group used in the hierarchical clustering process is the *Job*. When two or more jobs have a substantial degree of similarity in tasks performed and time spent on tasks, they are grouped together and identified as a *Cluster*. The structure of the career ladder is then defined in terms of jobs and clusters of jobs. The resulting job structure information can be used to evaluate the accuracy of career ladder documents (i.e., AFMAN 36-2108 *Airman Classification*, the Career Field Education and Training Plan, and Specialty Training Standard (STS)) and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the analysis of tasks performed and the amount of time spent performing each task, one job was identified within the AFSC 1A1X1C survey sample. Figure 1 illustrates the job performed by all AFSC 1A1X1C personnel. A listing of those jobs is provided below. The stage (ST) number shown beside each title is a reference to computer-printed information; the letter "N" represents the number of personnel in each group.

I. FLIGHT ENGINEER JOB (ST017, N=478)

The respondents forming this job account for 98 percent of the survey sample (Figure 1). The remaining 2 percent are performing tasks or a series of tasks that did not group with the identified job. Some of the job titles given by respondents representative of these personnel include: Evaluator, Instructor Flight Engineer, Aviation Safety Inspector, Safety NCO, Superintendent Wing Plans, Course Manager, Examiner Flight Engineer, Research Flight Engineer, Chief Readiness Flight.

Group Descriptions

The following paragraph contains a brief description of the job identified through the career ladder structure analysis. Appendix A lists representative tasks performed by the identified job. Table 3 presents the relative time spent on duties by members of this specialty job. Table 4 provides demographic information for the job discussed within this report.

I. FLIGHT ENGINEER JOB (ST017). The 1,354 airmen forming this job (97 percent of survey sample) are the core of this career ladder. It is evident, once an airman graduates from their airframe schoolhouse, their remaining career will consist of a very technical job, with some supervisory roles, as they progress. Because this is the basic job of the career ladder, it is performed by the most recently trained through the more senior AFSC 1A1X1C personnel. Tasks performed by these members encompass the essence of Flight Engineer activities as members perform aircraft inspections and technical flight engineer functions such as resolving technical problems encountered by operating units. Members within this cluster spend the majority of their

1A1X1C SPECIALTY JOB

Flight Engineer
97%

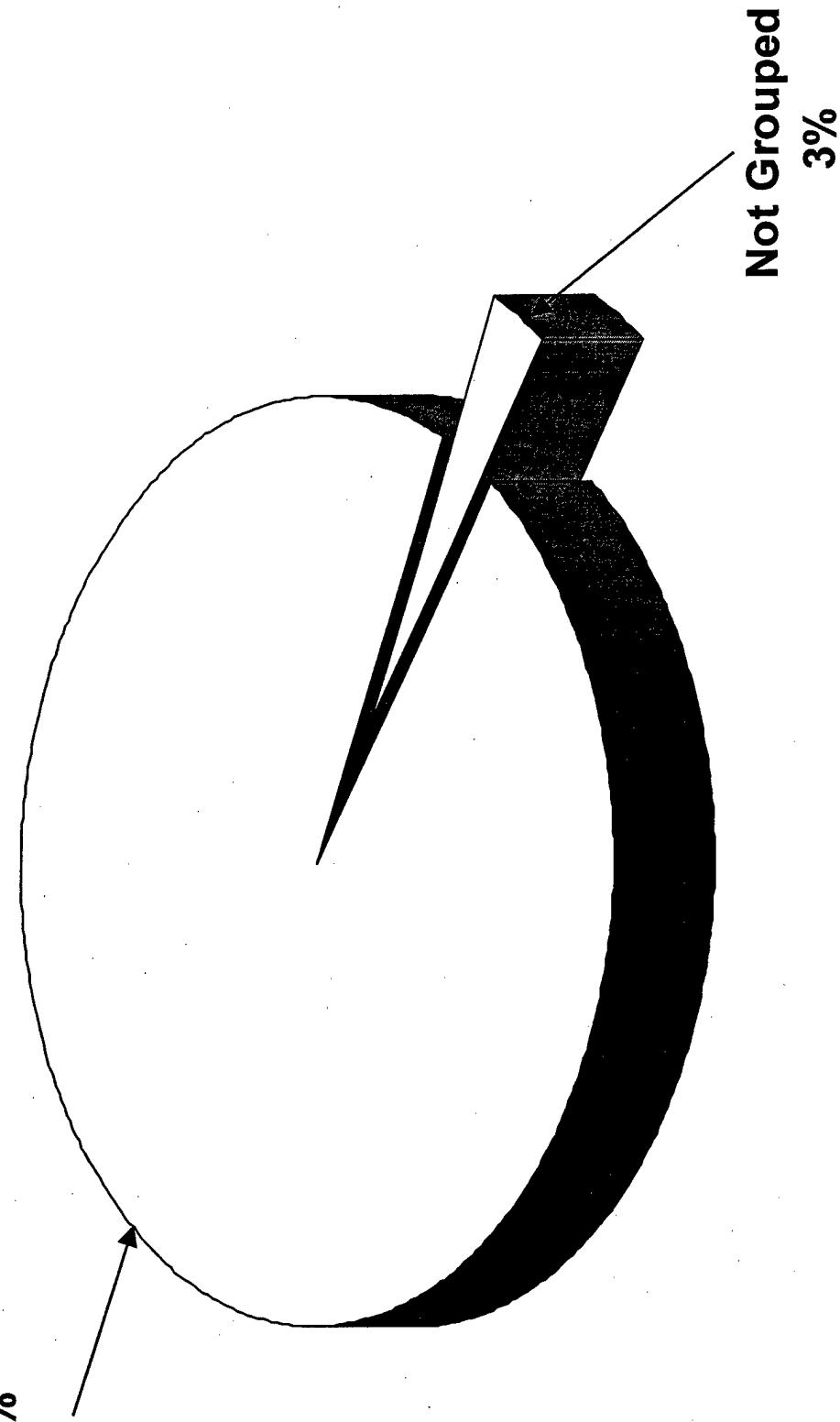


FIGURE 1

TABLE 3

RELATIVE PERCENT TIME SPENT PERFORMING DUTIES BY SPECIALTY JOB FOR AFSC 1A1X1C

DUTIES	FLIGHT ENGINEER (STG017) (N=1354)
A PERFORMING GENERAL AIRCREW ACTIVITIES	13
B PERFORMING MAINTENANCE ACTIVITIES	4
C PERFORM MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS	4
D PERFORM AUXILIARY SYSTEMS ACTIVITIES	3
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES	7
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES	6
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES	5
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES	11
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES	3
J PERFORMING FUEL SYSTEMS ACTIVITIES	6
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES	7
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS	1
M PERFORMING PNEUDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES	2
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES	10
O PERFORMING PROPELLER SYSTEMS ACTIVITIES	2
P PERFORMING SPECIAL MISSION ACTIVITIES	1
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES	7
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	3
S PERFORMING EVALUATION ACTIVITIES	1
T PERFORMING TRAINING ACTIVITIES	2
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	1
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	*

* Denotes less than 1 percent

TABLE 4
SELECTED BACKGROUND DATA FOR SPECIALTY JOBS FOR AFSC 1A1X1C

FLIGHT ENGINEER (STG017)		
NUMBER IN GROUP	PERCENT OF SAMPLE	PERCENT IN CONUS
1354	98%	92%
DAFSC DISTRIBUTION:		
1A151C	34%	
1A171C	56%	
1A190	6%	
1A100	4%	
COMPONENT STATUS		
ACTIVE DUTY	54%	
AIR FORCE RESERVE	26%	
AIR NATIONAL GUARD	20%	
PAYGRADE DISTRIBUTION		
E-1 to E-3	0%	
E-4	8%	
E-5	29%	
E-6	28%	
E-7	25%	
E-8	7%	
E-9	3%	
AVERAGE TICF*	96 MOS	
PERCENT SUPERVISING	34%	
AVERAGE NUMBER OF TASKS PERFORMED	327	

* Active Duty Only

time performing tasks in all duties (see Table 3). They spend 13 percent of their time performing general aircrew activities, 11 percent performing environmental or cooling systems activities, 10 percent performing powerplant systems activities, 8 percent performing auxiliary power unit (APU) or gas turbine compressor (GTC) systems activities, and 7 percent performing landing gear (LDG) and brake systems activities, and emergency procedure activities. The majority of personnel within this job are presently rated in the C-130 (42%), C-141 (23%), and C-5 (18%). They perform an average of 327 tasks which demonstrates the nature of work performed by these individuals:

- perform preflight inspections of cockpit or cabin compartments
- compute takeoff and landing data (TOLD)
- perform preflight inspections of aircraft for fluid leakage
- perform preflight inspections of aircraft panels, locks, or fasteners
- review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records
- brief aircraft commander or maintenance personnel on aircraft systems malfunctions
- operate or monitor air-conditioning systems
- operate or monitor pressurization systems
- verify safety pins and streamers are removed prior to flight or installed after flight
- operate or monitor APU or GTC bleed-air systems
- perform preflight inspections of oxygen systems
- operate or monitor anti-ice systems
- monitor transformer rectifier (TR) systems operations
- perform preflight inspections of batteries or battery relays
- participate in crew operations debriefings
- operate or monitor fuel flow or transfer systems
- perform preflight inspections of emergency exit systems
- perform preflight inspections of wiring, circuit breakers, or control panels

Personnel in this job average 9 years TICF. The majority of personnel in this job are in the paygrades of E-5 through E-7 and most (83 percent) hold a 7-skill level (see Table 4). Only 34 percent are supervising other flight engineers.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of OSR AFPT 90-113-015, Flight Engineer (Performance Qualified), dated May 1995. After reviewing the jobs identified in 1995, none of the groups with substantial numbers of personnel could be matched to the Flight Engineer Job in the current study (see Table 5). This variation could generally be attributed to modifications in the task list or to the analysis approach used.

TABLE 5

SPECIALTY JOB COMPARISONS BETWEEN CURRENT AND 1995 SURVEYS

CURRENT SURVEY (N=1383)	1995 SURVEY (N=1072)
I. FLIGHT ENGINEER JOB (N=1354) I. C-141 FLIGHT ENGINEERS (N=465) II. C-5 FLIGHT ENGINEERS (N=202) III. KC-10 FLIGHT ENGINEERS (N=60) IV. KC-135 SERIES FLIGHT ENGINEERS (N=30) V. E-3 FLIGHT ENGINEERS (N=28) VI. E-4 FLIGHT ENGINEERS (N=9) VII. VC-137 FLIGHT ENGINEERS (N=15) VIII. C-130 FLIGHT ENGINEERS (N=229) IX. SUPERVISORY FLIGHT ENGINEERS (N=7)	

The following jobs were identified in the 1995 career ladder structure, but did not have a direct match in the current study: C-141 Flight Engineers, C-5 Flight Engineers, KC-10 Flight Engineers, C/KC-135 Series Flight Engineers, E-3 Flight Engineers, VC-137 Flight Engineers, C-130 Flight Engineers, and Supervisory Flight Engineers.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as the AFMAN 36-2108 *Airman Classification* and the Specialty Training Standard (STS) reflect what career ladder personnel are actually doing in the field and what is required of their members.

The distribution of skill-level groups across the career ladder job are displayed in Table 6. These tables also reflect the distribution of AD, ANG, and AFRC personnel. A somewhat typical pattern of progression is noted within the AFSC 1A1X1C career ladder. Personnel at the 5- and 7-skill levels work in the technical jobs of the career ladder and spend most of their time on technical tasks. As incumbents move up to the 9- and CEM skill-levels, they begin to perform supervisory tasks, but still spend time performing the technical tasks of the career ladder.

Skill-Level Descriptions

DAFSC 1A151C: The 465 members of this group account for 34 percent of the survey sample. Ninety-eight percent of the total 5-skill level personnel are in the Flight Engineer Job (See Table 6).

Table 7 provides a comparison of the relative time spent on duties for the AD, ANG, and AFRC forces at the 5-skill level. This table reflects a close similarity between the duties performed by 5-skill level personnel for the AD, ANG, and AFRC forces. All three components spend the greatest percentage of their time performing general aircrew activities. The second highest percentage of time spent is on performing environmental or cooling systems activities. Personnel spend the remainder of their time on a variety of duties.

Tables 8-11 list representative tasks performed by these DAFSC 1A151C personnel. Table 12 reflects those tasks which best differentiate the AD 5-skill level from the ANG 5-skill level. This table shows the ANG 5-skill level personnel spend a greater percentage of their time performing tasks concerning propeller systems than their AD counterparts.

Table 13 shows the tasks with the most differences between AD 5-skill level and the AFRC 5-skill level personnel. This table indicates that the AD forces are performing more supervisory activities at the 5-skill level than the AFRC 5-skill level personnel. Conversely, AFRC 5-skill level personnel are performing more preflight activities than their AD counterparts.

Table 14 compares the 5-skill levels of the ANG and AFRC. This table shows more ANG members performing propeller related tasks than 5-skill level AFRC personnel. It also shows the AFRC incumbents performing more preflight inspections on various systems than their ANG counterparts at the 5-skill level.

TABLE 6

DISTRIBUTION OF SKILL LEVEL DAFSC GROUP MEMBERS ACROSS THE SPECIALTY JOB
(PERCENT RESPONDING)

		FLIGHT ENGINEER (STG17) (N= 1,354)	NOT GROUPED
TOTAL		98	2
TOTAL		98	2
TOTAL		96	4
TOTAL		96	4
DAFSC 1A151C		98	2
DAFSC 1A171C		97	3
DAFSC 1A190		94	6
DAFSC 1A100		93	7
DAFSC 1A151C		98	2
DAFSC 1A171C		100	0
DAFSC 1A190		96	4
DAFSC 1A100		100	0
ANG		DAFSC 1A151C	98
ANG		DAFSC 1A171C	99
ANG		DAFSC 1A190	100
ANG		DAFSC 1A100	100
AFRC		DAFSC 1A151C	2
AFRC		DAFSC 1A171C	1
AFRC		DAFSC 1A190	0
AFRC		DAFSC 1A100	0

TABLE 7

RELATIVE PERCENT TIME SPENT ON DUTIES BY 5-SKILL LEVEL DAFSC GROUPS

DUTIES	TOTAL 1A151C (N=465)	ACTIVE 1A151C (N=331)	ANG 1A151C (N=79)	AFRC 1A151C (N=55)	
				14	14
A PERFORMING GENERAL AIRCREW ACTIVITIES				4	4
B PERFORMING GENERAL MAINTENANCE ACTIVITIES				4	5
C PERFORMING MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS				4	4
D PERFORMING AUXILIARY SYSTEMS ACTIVITIES				3	3
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES				7	7
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES				5	5
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES				6	6
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES				12	11
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES				4	4
J PERFORMING FUEL SYSTEMS ACTIVITIES				5	5
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES				7	8
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS ACTIVITIES				1	*
M PERFORMING PNEUMDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES				3	2
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES				10	10
O PERFORMING PROPELLER SYSTEMS ACTIVITIES				3	4
P PERFORMING SPECIAL MISSION ACTIVITIES				1	1
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES				7	7
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES				1	1
S PERFORMING EVALUATION ACTIVITIES				*	*
T PERFORMING TRAINING ACTIVITIES				1	*
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES				1	1
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES				*	*

* less than 1 percent

TABLE 8
REPRESENTATIVE TASKS PERFORMED BY ALL 1A151C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=465)
C0100 Compute takeoff and landing data (TOLD)	98
A0040 Perform preflight inspections of cockpit or cabin compartments	98
A0037 Perform preflight inspections of aircraft for fluid leakage	97
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	96
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	95
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	95
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	95
H0253 Operate or monitor air-conditioning systems	94
E0145 Operate or monitor APU or GTC bleed-air systems	94
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	94
C0096 Compute climb, cruise, or descent data	94
A0024 Participate in maintenance debriefings	94
H0260 Operate or monitor pressurization systems	94
G0221 Perform preflight inspections of batteries or battery relays	94
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	94
A0018 Open or close crew entrance doors	93
B0059 Coordinate maintenance requirements with crew chiefs	93
H0233 Analyze air-conditioning systems malfunctions	93
G0226 Perform preflight inspections of interior or exterior lighting systems	93
H0254 Operate or monitor anti-ice systems	92
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	92
E0146 Operate or monitor APU or GTC electrical systems	92
I0295 Perform preflight inspections of primary flight control systems	92
N0432 Monitor engine instrument systems operations	92
G0224 Perform preflight inspections of electrical power systems	92
N0441 Operate or monitor engine fuel systems	91
J0311 Monitor fuel consumption	91
H0259 Operate or monitor oxygen systems	91
H0234 Analyze anti-ice systems malfunctions	91
G0215 Monitor transformer rectifier (TR) systems operations	91
H0257 Operate or monitor environmental bleed-air systems	91
E0151 Perform preflight inspections of APU or GTC bleed-air systems	91
K0361 Perform preflight inspections of LDG doors	91
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	91

* Average Number of Tasks Performed - 288

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A151C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=331)
C0100 Compute takeoff and landing data (TOLD)	99
A0037 Perform preflight inspections of aircraft for fluid leakage	97
A0040 Perform preflight inspections of cockpit or cabin compartments	97
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	96
A0024 Participate in maintenance debriefings	96
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	95
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	94
E0145 Operate or monitor APU or GTC bleed-air systems	94
H0253 Operate or monitor air-conditioning systems	94
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	93
H0260 Operate or monitor pressurization systems	93
C0096 Compute climb, cruise, or descent data	93
G0221 Perform preflight inspections of batteries or battery relays	93
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	93
A0018 Open or close crew entrance doors	93
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	93
H0233 Analyze air-conditioning systems malfunctions	93
H0254 Operate or monitor anti-ice systems	92
G0226 Perform preflight inspections of interior or exterior lighting systems	92
B0059 Coordinate maintenance requirements with crew chiefs	92
I0295 Perform preflight inspections of primary flight control systems	92
N0441 Operate or monitor engine fuel systems	92
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	92
G0224 Perform preflight inspections of electrical power systems	92
E0146 Operate or monitor APU or GTC electrical systems	91
E0151 Perform preflight inspections of APU or GTC bleed-air systems	91
E0153 Perform preflight inspections of APU or GTC fire detection systems	91
H0259 Operate or monitor oxygen systems	91
H0234 Analyze anti-ice systems malfunctions	91
N0432 Monitor engine instrument systems operations	91
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	90
H0257 Operate or monitor environmental bleed-air systems	90
C0092 Compute aircraft emergency performance data	90
J0311 Monitor fuel consumption	90
A0020 Operate emergency escape hatches	90
H0237 Analyze environmental bleed-air systems malfunctions	90
E0147 Operate or monitor APU or GTC fire extinguishing systems	90

* Average Number of Tasks Performed - 278

TABLE 10
REPRESENTATIVE TASKS PERFORMED BY ANG 1A151C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=79)
A0040 Perform preflight inspections of cockpit or cabin compartments	100
A0037 Perform preflight inspections of aircraft for fluid leakage	99
A0039 Perform preflight inspections of aircraft structures for erosion, corrosion, damage, or cracks	97
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	97
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	97
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	96
C0100 Compute takeoff and landing data (TOLD)	96
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	96
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	96
C0096 Compute climb, cruise, or descent data	96
E0148 Perform operational checks on APU or GTC bleed-air systems	96
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	95
A0002 Brief aircraft commander or crew on premission status of aircraft	95
J0311 Monitor fuel consumption	95
N0432 Monitor engine instrument systems operations	95
A0042 Perform preflight inspections of emergency exit systems	95
H0253 Operate or monitor air-conditioning systems	95
B0059 Coordinate maintenance requirements with crew chiefs	95
E0145 Operate or monitor APU or GTC bleed-air systems	95
E0146 Operate or monitor APU or GTC electrical systems	95
G0215 Monitor transformer rectifier (TR) systems operations	95
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	95
K0361 Perform preflight inspections of LDG doors	95
N0433 Monitor engine thrust or torque indicating systems operations	94
A0023 Participate in crew operations debriefings	94
H0260 Operate or monitor pressurization systems	94
H0261 Operate or monitor underfloor heating systems	94
G0221 Perform preflight inspections of batteries or battery relays	94
G0226 Perform preflight inspections of interior or exterior lighting systems	94
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	94
N0417 Analyze engine bleed-air systems malfunctions	94
H0234 Analyze anti-ice systems malfunctions	94
H0233 Analyze air-conditioning systems malfunctions	94
H0257 Operate or monitor environmental bleed-air systems	92

* Average Number of Tasks Performed - 312

TABLE 11
REPRESENTATIVE TASKS PERFORMED BY AFRC 1A151C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=55)
A0040 Perform preflight inspections of cockpit or cabin compartments	100
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	100
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	98
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	98
C0100 Compute takeoff and landing data (TOLD)	98
A0037 Perform preflight inspections of aircraft for fluid leakage	98
H0253 Operate or monitor air-conditioning systems	98
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	98
B0059 Coordinate maintenance requirements with crew chiefs	96
H0260 Operate or monitor pressurization systems	96
J0316 Operate or monitor fuel flow or transfer systems	96
A0018 Open or close crew entrance doors	96
C0096 Compute climb, cruise, or descent data	96
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	96
E0145 Operate or monitor APU or GTC bleed-air systems	96
G0221 Perform preflight inspections of batteries or battery relays	96
K0348 Monitor LDG position indicators	96
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	96
K0358 Perform preflight inspections of LDG brake or antiskid systems	96
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	95
G0218 Operate or monitor electrical systems, other than APU or GTC electrical systems or special system buses	95
N0432 Monitor engine instrument systems operations	95
H0261 Operate or monitor underfloor heating systems	95
J0311 Monitor fuel consumption	95
H0254 Operate or monitor anti-ice systems	95
E0146 Operate or monitor APU or GTC electrical systems	95
G0215 Monitor transformer rectifier (TR) systems operations	95
H0259 Operate or monitor oxygen systems	95
G0220 Perform operational checks on pitot heat systems	95
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	95
K0349 Monitor LDG system normal extensions or retractions	95
K0368 Perform preflight inspections of LDG wheel assemblies	95
K0361 Perform preflight inspections of LDG doors	95
H0264 Perform preflight inspections of air-conditioning systems	95
H0274 Perform preflight inspections of oxygen systems	95

* Average Number of Tasks Performed - 310

TABLE12

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY AND ANG DAFSC 1A151C PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	ACTIVE			ANG DAFSC 1A151C (N=331)	ANG DAFSC 1A151C (N=79)	DIFF
	DAFSC (N=331)	1A151C (N=79)	1A151C (N=79)			
00468	Perform unscheduled maintenance on propeller systems	13	62	49	62	-46
00470	Service propeller systems	18	63	46	54	-41
B0073	Moor aircraft	14	54	38	65	-38
N0455	Service power plant systems	26	61	36	61	-36
G0230	Perform unscheduled maintenance on electrical systems, other than APU or GTC electrical systems	25	61	36	61	-36
N0453	Perform unscheduled maintenance on power plant systems	25	61	36	65	-35
D0118	Operate or monitor exit spoiler or air deflector systems	30	65	35	51	-35
B0078	Perform over-the-wing refueling or defueling operations	15	51	35	84	-33
B0084	Remove or install airframe or engine covers	50	84	33	91	-32
A0021	Operate flightline motor vehicles	60	91	32	81	-32
D0119	Operate or monitor manual cargo door or ramp systems	49	81	32	56	-32
B0087	Remove or replace structural hardware, such as bolts, fasteners, or screws	24	56	32	71	-31
K0370	Perform unscheduled maintenance on LDG or brake systems	17	48	31	66	-30
B0085	Remove or replace access doors, cowlings, fairings, inspection plates, panels, or windows	40	78	30	41	-29
C0458	Analyze propeller negative torque systems malfunctions	48	78	30	63	-29
D0128	Perform preflight inspections of exit spoiler or air deflector systems	36	66	30	77	-28
G0232	Service electrical systems	12	41	29	67	-28
D0111	Analyze exit spoiler or air deflector systems malfunctions	34	63	29	82	-28
C0457	Analyze propeller electronic governor systems malfunctions	48	77	29	63	-29
E0161	Service APU or GTC systems	34	63	29	81	-28
O0463	Operate or monitor propeller anti-ice or de-ice systems	55	82	28	76	-28
C0469	Recommend or perform corrective actions after analyses of propeller systems malfunctions	39	67	28	81	-28
C0464	Perform operational checks on propeller anti-ice or de-ice systems	53	81	28	48	-28
M0413	Service engine oil systems					

TABLE 13

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY AND AFRC DAFSC 1A151C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS		ACTIVE			AFRC	
		DAFSC (N=331)	1A151C (N=55)	DIFF	DAFSC 1A151C (N=55)	DIFF
R0594	Write or endorse military performance reports	24	2	22	89	-27
R0550	Conduct supervisory performance feedback sessions	26	7	19	85	-25
J0327	Perform preflight inspections of single-point refueling systems	62				
C0090	Complete range computations	60				
A0025	Participate in preflight or postflight intelligence briefings	68				
J0321	Perform fuel system operation cold weather procedures	49				
H0246	Analyze ventilating systems malfunctions	49				
J0328	Perform preflight inspections of wing pressurization systems	25				
C0089	Complete performance planning worksheets	50				
N0455	Service power plant systems	26				
M0402	Operate or monitor pneumatic systems to include emergency systems	41				
K0351	Operate alternate gear systems	41				
J0306	Analyze single-point refueling systems malfunctions	50				
H0262	Operate or monitor ventilating systems	55				
B0076	Perform hot refueling or defueling operations	19				
D0133	Service auxiliary systems	22				
E0134	Analyze auxiliary power unit (APU) hydraulic starting systems malfunctions	44				
N0434	Monitor engine thrust reversing systems operations	46				
J0331	Service fuel systems	47				
D0126	Perform preflight inspections of cargo doors, ramps, or latches	56				
G0230	Perform unscheduled maintenance on electrical systems, other than APU or GTC electrical systems	25				
P0487	Perform HALO paratroop checklist procedures	38				
A0032	Perform functional check flight (FCF) duties	25				

TABLE 14

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG AND AFRC DAFSC 1A151C PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	ANG (N=79)	AFRC DAFSC 1A151C (N=55)			DIFF
		ANG (N=79)	DAFSC 1A151C (N=55)	AFRC DAFSC 1A151C (N=55)	
O0468	Perform unscheduled maintenance on propeller systems	62	33	29	
O0470	Service propeller systems	63	35	29	
B0073	Moor aircraft	54	27	27	
O0457	Analyze propeller electronic governor systems malfunctions	77	51	26	
N0453	Perform unscheduled maintenance on power plant systems	61	35	26	
O0469	Recommend or perform corrective actions after analyses of propeller systems malfunctions	67	42	25	
D0111	Analyze exit spoiler or air deflector systems malfunctions	63	38	25	
A0021	Operate flightline motor vehicles	91	67	24	
F0195	Perform preflight inspections of instrument systems, such as avionics or flight instruments	84	60	24	
O0456	Analyze propeller anti-ice or de-ice systems malfunctions	80	56	23	
D0119	Operate or monitor manual cargo door or ramp systems	81	58	23	
D0128	Perform preflight inspections of exit spoiler or air deflector systems	66	44	22	
O0458	Analyze propeller negative torque systems malfunctions	78	56	22	
O0459	Analyze propeller pitchlock systems malfunctions	78	56	22	
E0159	Prime APU or GTC oil systems	49	27	22	
E0160	Recommend or perform corrective actions after analyses of APU or GTC systems malfunctions	84	62	22	
K0370	Perform unscheduled maintenance on LDG or brake systems	48	27	21	
H0276	Perform preflight inspections of rain removal systems	43	24	19	
F0197	Perform preflight inspections of navigation equipment, other than radar equipment	56	36	19	
P0492	Perform night vision goggle operations	9	36	-28	
J0318	Operate or monitor in-flight refueling systems	27	49	-23	
M0407	Perform preflight inspections of pneudraulic systems or accumulators to include emergency systems	48	71	-23	
J0326	Perform preflight inspections of in-flight refueling systems	25	47	-22	
J0322	Perform preflight inspections of air refueling systems	27	47	-21	

DAFSC 1A171C: The 773 members of this group account for 56 percent of the survey sample. Ninety-eight percent of the total 7-skill level personnel are in the Flight Engineer Job. Ninety-seven percent of the AD 7-skill level personnel are in the Flight Engineer Job, while 100 percent and 99 percent of the ANG and AFRC are in this job respectfully.

Table 15 provides a comparison of the relative time spent on duties for the AD and ANG forces at the 7-skill level. This table reflects the AD devote more time to supervisory related tasks (6 percent) compared to their ANG (2 percent) and AFRC (2 percent) counterparts. All three components spent the greatest percentage of their time performing general aircrew activities (Duty A).

Tables 16-19 list representative tasks performed by these DAFSC 1A171C personnel. Personnel at the 7-skill level are performing an average of 332 tasks. Table 20 reflects those tasks which best differentiate the AD 5-skill levels from the 7-skill levels. This table shows that the 7-skill level personnel perform supervisory tasks not performed by high numbers of 5-skill level personnel, such as evaluating personnel and conducting meetings.

Table 21 reflects the differences between the 5- and 7-skill levels for the ANG. Personnel at the 7-skill level are performing more training activities, such as evaluating the progress of trainees, and conducting classroom training, than personnel at the 5-skill level.

Table 22 shows the tasks that best differentiate the 5- and 7-skill levels for the AFRC. A greater percentage of personnel at the 5-skill level are performing propeller systems tasks than 7-skill level personnel.

Table 23 shows the tasks with the most differences between AD 7-skill level and their ANG 7-skill level counterparts. This table clearly shows AD forces performing more supervisory tasks, while the ANG 7-skill level personnel are performing a greater percentage of propeller systems activities.

Table 24 compares the tasks performed by AD and AFRC 7-skill levels. Similar to the differences between the AD and ANG, the AD 7-skill members perform more supervisory activities than their AFRC counterparts. However, AFRC 7-skill level members are performing more preflight inspections of various systems than the AD 7-skill level members.

Table 25 compares the 7-skill levels of the ANG and AFRC Forces. This table shows more ANG members performing propeller systems activities than their AFRC counterparts.

DAFSC 1A190: These 90 members perform an average of 367 tasks and represent 6 percent of the survey sample. Table 6 shows that 96 percent of the Total 9-skill level personnel are in the Flight Engineer Job, with 94 percent of the AD in this job. The ANG shows 96 percent of their 9-skill level are in the Flight Engineer Job, while the AFRC has 100 percent.

Table 26 reflects the percent time spent on duties by DAFSC 1A190 members. The largest percentage of all three components time is spent performing general aircrew activities (Duty A).

TABLE 15

RELATIVE PERCENT TIME SPENT ON DUTIES BY 7-SKILL LEVEL DAFSC GROUPS

DUTIES	TOTAL 1A171C (N=773)	ACTIVE 1A171C (N=348)	ANG 1A171C (N=146)	AFRC 1A171C (N=278)
A PERFORMING GENERAL AIRCREW ACTIVITIES	13	13	12	13
B PERFORMING GENERAL MAINTENANCE ACTIVITIES	4	4	5	4
C PERFORMING MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS	4	4	4	5
D PERFORMING AUXILIARY SYSTEMS ACTIVITIES	3	2	3	3
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES	7	6	7	7
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES	6	6	6	6
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES	5	5	5	5
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES	11	10	11	11
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES	3	3	3	4
J PERFORMING FUEL SYSTEMS ACTIVITIES	5	5	5	7
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES	7	7	7	7
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS ACTIVITIES	1	1	1	1
M PERFORMING PNEUDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES	3	3	3	3
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES	9	9	10	9
O PERFORMING PROPELLER SYSTEMS ACTIVITIES	2	2	3	1
P PERFORMING SPECIAL MISSION ACTIVITIES	1	1	1	1
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES	7	7	7	8
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	4	6	2	2
S PERFORMING EVALUATION ACTIVITIES	1	1	1	*
T PERFORMING TRAINING ACTIVITIES	2	2	2	1
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	1	2	1	1
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	*	1	*	

* less than 1 percent

TABLE 16
REPRESENTATIVE TASKS PERFORMED BY ALL 1A171C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=773)
A0040 Perform preflight inspections of cockpit or cabin compartments	99
A0037 Perform preflight inspections of aircraft for fluid leakage	98
C0100 Compute takeoff and landing data (TOLD)	97
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	97
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	97
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	97
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	96
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	96
A0018 Open or close crew entrance doors	96
A0024 Participate in maintenance debriefings	95
H0253 Operate or monitor air-conditioning systems	95
H0260 Operate or monitor pressurization systems	95
C0096 Compute climb, cruise, or descent data	95
C0092 Compute aircraft emergency performance data	95
J0311 Monitor fuel consumption	95
B0059 Coordinate maintenance requirements with crew chiefs	95
E0145 Operate or monitor APU or GTC bleed-air systems	94
N0432 Monitor engine instrument systems operations	94
A0023 Participate in crew operations debriefings	94
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	93
I0295 Perform preflight inspections of primary flight control systems	93
E0146 Operate or monitor APU or GTC electrical systems	93
N0447 Perform preflight inspections of engine cowlings	93
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	93
N0441 Operate or monitor engine fuel systems	93
G0215 Monitor transformer rectifier (TR) systems operations	93
H0274 Perform preflight inspections of oxygen systems	93
A0019 Operate emergency equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	93
A0042 Perform preflight inspections of emergency exit systems	93
G0226 Perform preflight inspections of interior or exterior lighting systems	93
A0020 Operate emergency escape hatches	93
K0361 Perform preflight inspections of LDG doors	92
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	92
H0259 Operate or monitor oxygen systems	92
H0233 Analyze air-conditioning systems malfunctions	92
H0254 Operate or monitor anti-ice systems	92

* Average Number of Tasks Performed - 332

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A171C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=348)
A0040 Perform preflight inspections of cockpit or cabin compartments	98
A0037 Perform preflight inspections of aircraft for fluid leakage	97
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	96
C0100 Compute takeoff and landing data (TOLD)	96
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	96
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	95
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	95
A0024 Participate in maintenance debriefings	95
A0018 Open or close crew entrance doors	95
H0253 Operate or monitor air-conditioning systems	94
H0260 Operate or monitor pressurization systems	94
C0092 Compute aircraft emergency performance data	94
C0096 Compute climb, cruise, or descent data	93
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	93
N0432 Monitor engine instrument systems operations	93
J0311 Monitor fuel consumption	93
B0059 Coordinate maintenance requirements with crew chiefs	93
A0002 Brief aircraft commander or crew on premission status of aircraft	92
N0441 Operate or monitor engine fuel systems	92
A0023 Participate in crew operations debriefings	92
G0215 Monitor transformer rectifier (TR) systems operations	92
A0019 Operate emergency equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	92
H0233 Analyze air-conditioning systems malfunctions	91
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	91
E0145 Operate or monitor APU or GTC bleed-air systems	91
A0026 Participate in premission briefings	91
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	91
H0254 Operate or monitor anti-ice systems	91
H0274 Perform preflight inspections of oxygen systems	91
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	90
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	90
J0316 Operate or monitor fuel flow or transfer systems	90
E0146 Operate or monitor APU or GTC electrical systems	90

* Average Number of Tasks Performed - 315

TABLE 18
REPRESENTATIVE TASKS PERFORMED BY ANG 1A171C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=146)
C0100 Compute takeoff and landing data (TOLD)	100
A0040 Perform preflight inspections of cockpit or cabin compartments	100
A0037 Perform preflight inspections of aircraft for fluid leakage	99
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	99
E0145 Operate or monitor APU or GTC bleed-air systems	99
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	98
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	98
E0146 Operate or monitor APU or GTC electrical systems	98
E0147 Operate or monitor APU or GTC fire extinguishing systems	98
A0020 Operate emergency escape hatches	98
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	97
H0253 Operate or monitor air-conditioning systems	97
J0311 Monitor fuel consumption	97
G0224 Perform preflight inspections of electrical power systems	97
E0151 Perform preflight inspections of APU or GTC bleed-air systems	97
A0023 Participate in crew operations debriefings	97
N0447 Perform preflight inspections of engine cowlings	97
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	97
H0260 Operate or monitor pressurization systems	97
C0096 Compute climb, cruise, or descent data	97
N0431 Monitor engine fire or overheat detection systems operations	97
G0215 Monitor transformer rectifier (TR) systems operations	97
H0259 Operate or monitor oxygen systems	97
N0441 Operate or monitor engine fuel systems	96
H0254 Operate or monitor anti-ice systems	96
H0261 Operate or monitor underfloor heating systems	96
E0153 Perform preflight inspections of APU or GTC fire detection systems	96
K0348 Monitor LDG position indicators	96
G0226 Perform preflight inspections of interior or exterior lighting systems	96
A0018 Open or close crew entrance doors	96
G0221 Perform preflight inspections of batteries or battery relays	96
G0227 Perform preflight inspections of pitot-static systems or temperature probes	96
G0213 Analyze electrical systems malfunctions, other than APU or GTC electrical systems or special system buses	96
J0319 Operate or monitor single-point refueling systems	96
H0233 Analyze air-conditioning systems malfunctions	96
H0234 Analyze anti-ice systems malfunctions	96

* Average Number of Tasks Performed - 350

TABLE 19

REPRESENTATIVE TASKS PERFORMED BY AFRC 1A171C PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=278)
A0040 Perform preflight inspections of cockpit or cabin compartments	99
A0037 Perform preflight inspections of aircraft for fluid leakage	99
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	99
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	99
C0100 Compute takeoff and landing data (TOLD)	98
A0018 Open or close crew entrance doors	98
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	97
H0260 Operate or monitor pressurization systems	97
C0096 Compute climb, cruise, or descent data	97
B0059 Coordinate maintenance requirements with crew chiefs	97
A0042 Perform preflight inspections of emergency exit systems	97
A0024 Participate in maintenance debriefings	97
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	97
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	97
C0092 Compute aircraft emergency performance data	97
I0295 Perform preflight inspections of primary flight control systems	96
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	96
N0447 Perform preflight inspections of engine cowlings	96
H0274 Perform preflight inspections of oxygen systems	96
H0253 Operate or monitor air-conditioning systems	96
H0264 Perform preflight inspections of air-conditioning systems	96
J0311 Monitor fuel consumption	96
E0145 Operate or monitor APU or GTC bleed-air systems	96
H0257 Operate or monitor environmental bleed-air systems	95
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	95
E0146 Operate or monitor APU or GTC electrical systems	95
K0361 Perform preflight inspections of LDG doors	95
C0101 Compute time, distance, or fuel using performance data formulas, charts, or graphs	95
G0226 Perform preflight inspections of interior or exterior lighting systems	95
N0445 Perform preflight inspections of engine air intakes	95
J0319 Operate or monitor single-point refueling systems	95
A0030 Perform aircrew scanning duties	94
N0432 Monitor engine instrument systems operations	94
J0316 Operate or monitor fuel flow or transfer systems	94
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	94

* Average Number of Tasks Performed - 317

TABLE 20

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY DAFSCs 1A151C AND 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE			ACTIVE DAFSC 1A171C (N=348)	DIFF
	DAFSC 1A151C (N=331)	DAFSC 1A171C (N=348)	ACTIVE DAFSC 1A171C (N=348)		
R574	12	49	-37		
T626	7	37	-30		
R548	16	46	-30		
R546	8	37	-29		
R581	16	45	-29		
R578	11	40	-29		
T628	6	34	-28		
R558	14	42	-28		
S601.	5	33	-28		
T627	18	46	-28		
S599	11	39	-28		
S608	9	36	-27		
C104	30	56	-26		
R573	10	36	-26		
R595	19	45	-26		
T612	15	40	-25		
R562	5	30	-25		
R555	16	41	-25		
T618	21	46	-25		
R543	8	32	-24		
T617	16	40	-24		
R568	5	29	-24		
T616	15	39	-24		
S598	6	30	-24		

TABLE 21

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG DAFSCs 1A151C AND 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	ANG			ANG DAFSC 1A151C (N=79)	ANG DAFSC 1A171C (N=146)	DIFF
	ANG DAFSC 1A151C (N=79)	ANG DAFSC 1A171C (N=146)	DIFF			
T618	3	39	-36			
T617	3	37	-34			
A32	34	68	-34			
T627	1	30	-29			
T614	5	32	-27			
T616	11	38	-27			
T619	3	30	-27			
U651	34	61	-27			
T621	5	31	-26			
T630	8	34	-26			
R590	4	29	-25			
T612	4	28	-24			
R567	1	25	-24			
T622	4	28	-24			
F191	27	50	-23			
J301	59	82	-23			
R581	0	23	-23			
T615	5	28	-23			
R546	0	23	-23			
R553	1	23	-22			
F178	42	64	-22			
S608	0	21	-21			
R556	5	26	-21			
R573	4	23	-19			
U648	9	28	-19			

TABLE 22

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AFRC DAFSCs 1A151C AND 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	AFRC	AFRC	AFRC	AFRC	DIFF
	DAFSC (N=55)	DAFSC (N=278)	1A151C (N=55)	1A171C (N=278)	
O463 Operate or monitor propeller anti-ice or de-ice systems	64	21	42	42	
N427 Analyze temperature datum (TxD) systems malfunctions	71	30	41	41	
O462 Monitor propeller pitchlock systems operations	62	22	40	40	
O464 Perform operational checks on propeller anti-ice or de-ice systems	62	22	40	40	
O461 Monitor propeller negative torque systems operations	62	22	40	40	
O465 Perform operational checks on propeller feathering systems	62	22	40	40	
O460 Monitor propeller electronic governor systems operations	58	21	37	37	
O458 Analyze propeller negative torque systems malfunctions	56	20	36	36	
O459 Analyze propeller pitchlock systems malfunctions	56	20	36	36	
N437 Operate TD systems	69	33	36	36	
O456 Analyze propeller anti-ice or de-ice systems malfunctions	56	20	36	36	
O467 Perform operational checks on propeller systems controls	56	21	35	35	
O466 Perform operational checks on propeller negative torque systems	56	22	34	34	
O457 Analyze propeller electronic governor systems malfunctions	51	20	31	31	
<hr/>					
F193 Perform preflight inspections of FSASS	23	63	-40	-40	
F167 Analyze fuel savings advisory systems (FSASS) malfunctions	18	56	-38	-38	
J313 Monitor fuel temperature conditions	45	82	-37	-37	
F206 Program, operate, or update FSASS	27	63	-36	-36	
Q505 Perform, practice, or simulate air refueling system emergency procedures	38	72	-34	-34	
J322 Perform preflight inspections of air refueling systems	47	79	-32	-32	
F198 Perform preflight inspections of radar systems	36	68	-32	-32	
C91 Compute air refueling data	45	75	-30	-30	
J315 Operate or monitor air refueling systems	47	77	-30	-30	
N428 Analyze thrust reverse systems malfunctions	40	70	-30	-30	

TABLE 23

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD AND ANG DAFSC 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE				ANG DAFSC 1A171C (N=146)	DIFF
	ANG DAFSC 1A171C (N=348)	DAFSC 1A171C (N=348)	ANG DAFSC 1A171C (N=146)	ANG DAFSC 1A171C (N=146)		
R0594	Write or indorse military performance reports	46	4	42		
R0550	Conduct supervisory performance feedback sessions	44	6	38		
R0595	Write recommendations for awards or decorations	44	9	35		
-----	-----	-----	19	64	-45	
B0073	Moor aircraft	17	62	-45		
00470	Service propeller systems	34	77	-44		
00459	Analyze propeller pitchlock systems malfunctions	32	76	-44		
00467	Perform operational checks on propeller systems controls	36	79	-43		
00461	Monitor propeller negative torque systems operations	36	79	-43		
00464	Perform operational checks on propeller anti-ice or de-ice systems	34	77	-43		
00456	Analyze propeller anti-ice or de-ice systems malfunctions	36	79	-43		
00465	Perform operational checks on propeller feathering systems	35	79	-43		
00462	Monitor propeller pitchlock systems operations	33	75	-42		
00466	Perform operational checks on propeller negative torque systems	34	77	-42		
00458	Analyze propeller negative torque systems malfunctions	36	78	-42		
00463	Operate or monitor propeller anti-ice or de-ice systems	15	56	-41		
B0078	Perform over-the-wing refueling or defueling operations	16	58	-41		
00468	Perform unscheduled maintenance on propeller systems	29	69	-40		
00469	Recommend or perform corrective actions after analyses of propeller systems malfunctions	40	80	-40		
N0437	Operate TD systems	40	79	-39		
Q0527	Perform, practice, or simulate propeller failure procedures	41	78	-38		
N0427	Analyze temperature datum (TD) systems malfunctions	34	73	-38		
00457	Analyze propeller electronic governor systems malfunctions	55	92	-37		
B0084	Remove or install airframe or engine covers					

TABLE 24

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD AND AFRC DAFSC 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE			AFRC		
	DAFSC (N=348)	1A171C (N=278)	DIFF	DAFSC (N=348)	1A171C (N=278)	DIFF
N0416	Adjust engine controls during flight, such as cables or throttle levers	56	31	26		
R0550	Conduct supervisory performance feedback sessions	44	19	25		
R0595	Write recommendations for awards or decorations	44	21	23		
F0492	Perform night vision goggle operations	33	11	23		
E0144	Operate or monitor APU hydraulic starting systems	52	81	-30		
	Perform preflight inspections of thrust reverse systems	44	72	-28		
F0206	Program, operate, or update FSASS	36	64	-28		
E0150	Perform preflight inspections of APU hydraulic starting systems	49	77	-28		
F0193	Perform preflight inspections of FSASS	36	63	-27		
J0309	Inspect fuel for contaminants	27	53	-26		
H0244	Analyze rain removal systems malfunctions	37	63	-26		
H0277	Perform preflight inspections of underfloor heating systems	52	78	-26		
H0262	Operate or monitor ventilating systems	48	73	-25		
H0276	Perform preflight inspections of rain removal systems	27	51	-25		
H0278	Perform preflight inspections of ventilating systems	41	66	-25		
N0435	Monitor engine vibration indicators, other than MADAR systems engine vibration analyses	40	63	-24		
E0134	Analyze auxiliary power unit (APU) hydraulic starting systems malfunctions	48	72	-24		
B0061	Drain fuel sumps	22	46	-24		
H0246	Analyze ventilating systems malfunctions	47	71	-24		
Q0533	Perform, practice, or simulate thrust reverse failure procedures	53	77	-24		
J0313	Monitor fuel temperature conditions	60	83	-23		
H0249	Monitor environmental fire suppression systems operations	39	62	-23		
F0167	Analyze fuel savings advisory systems (FSAS) malfunctions	33	56	-23		

TABLE 25

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG AND AFRC DAFSC 1A171C PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ANG (N=146)	AFRC DAFSC 1A171C (N=278)	DIFF
00462 Monitor propeller pitchlock systems operations	79	22	57
00459 Analyze propeller pitchlock systems malfunctions	77	21	57
00463 Operate or monitor propeller anti-ice or de-ice systems	78	21	57
00464 Perform operational checks on propeller anti-ice or de-ice systems	79	22	57
00461 Monitor propeller negative torque systems operations	79	22	57
00456 Analyze propeller anti-ice or de-ice systems malfunctions	77	21	57
00465 Perform operational checks on propeller feathering systems	79	22	56
00458 Analyze propeller negative torque systems malfunctions	77	21	56
00467 Perform operational checks on propeller systems controls	76	21	55
00466 Perform operational checks on propeller negative torque systems	75	22	53
00457 Analyze propeller electronic governor systems malfunctions	73	20	52
00460 Monitor propeller electronic governor systems operations	73	22	52
00469 Recommend or perform corrective actions after analyses of propeller systems malfunctions	69	19	50
N0427 Analyze temperature datum (TD) systems malfunctions	78	30	48
N0437 Operate TD systems	80	33	47
O0470 Service propeller systems	62	16	46
Q0527 Perform, practice, or simulate propeller failure procedures	79	33	45
N0416 Adjust engine controls during flight, such as cables or throttle levers	74	31	43
O0468 Perform unscheduled maintenance on propeller systems	58	16	41
J0318 Operate or monitor in-flight refueling systems	32	78	-46
J0322 Perform preflight inspections of air refueling systems	33	79	-46
Q0505 Perform, practice, or simulate air refueling system emergency procedures	28	72	-44
J0315 Operate or monitor air refueling systems	34	78	-43
C0091 Compute air refueling data	34	76	-42
J0313 Monitor fuel temperature conditions	43	83	-40

TABLE 26

RELATIVE PERCENT TIME SPENT ON DUTIES BY 9-SKILL LEVEL DAFSC GROUPS

DUTIES	TOTAL IA190 (N=90)	ACTIVE IA190 (N=48)	ANG IA190 (N=27)	AFRC IA190 (N=15)	
				12	13
A PERFORMING GENERAL AIRCREW ACTIVITIES	12	13	12	11	
B PERFORMING GENERAL MAINTENANCE ACTIVITIES	4	3	5	4	
C PERFORMING MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS	4	4	4	5	
D PERFORMING AUXILIARY SYSTEMS ACTIVITIES	3	2	3	3	
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES	6	5	6	6	
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES	5	5	5	8	
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES	4	4	5	4	
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES	9	9	10	10	
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES	4	4	4	3	
J PERFORMING FUEL SYSTEMS ACTIVITIES	5	5	5	6	
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES	6	5	5	6	
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS ACTIVITIES	1	*	*	2	
M PERFORMING PNEUDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES	2	2	2	3	
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES	9	9	10	8	
O PERFORMING PROPELLER SYSTEMS ACTIVITIES	2	2	4	-	
P PERFORMING SPECIAL MISSION ACTIVITIES	1	1	1	*	
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES	6	6	7	6	
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	9	11	5	7	
S PERFORMING EVALUATION ACTIVITIES	2	2	2	2	
T PERFORMING TRAINING ACTIVITIES	3	4	2	3	
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	2	3	2	2	
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	*	*	1		

* less than 1 percent

However, an increase in supervisory duties is seen in for 9-skill level members. Active Duty personnel spend eleven percent of their time performing supervisory duties (Duty R), while the ANG and AFRC are spending 5 percent and 7 percent respectively performing supervisory activities. Additionally, AFRC 9-skill level members are spending 8 percent of their time performing communication or navigation systems activities, while only 5 percent of the ANG and AD 9-skill level personnel do likewise.

Representative tasks performed by 7-skill level members are reflected in Tables 27-30. Table 31 reflects tasks which best differentiate between AD 7- and 9-skill levels. This table clearly shows the much higher devotion to management and supervisory tasks at the 9-skill level than the 7-skill level.

Table 32 compares the ANG 7- and 9-skill levels and shows the 9-skill levels performing evaluation activities at a much higher percentage than the 7-skill level members. Additionally, personnel at the 9-skill level are performing supervisory activities more than the 7-skill level members.

Table 33 reflects the tasks which best differentiate between AFRC 7- and 9-skill levels. Like their ANG counterparts, the AFRC 9-skill levels perform more evaluation activities than 7-skill level members. Additionally, AFRC 9-skill level members are performing more training and supervisory activities than the 7-skill level personnel.

Table 34 reflects the difference between the AD and ANG 9-skill level members. Similar to the 5- and 7-skill levels, ANG personnel are performing more propeller systems activities than their AD counterparts, while the AD 9-skill level members are performing more supervisory related tasks.

Table 35 displays the differences between the AD and AFRC 9-skill levels. This table shows that AFRC personnel are performing more communication or navigation systems activities (Duty F) than their AD counterparts.

Table 36 compares the ANG and AFRC 9-skill levels and shows that the ANG personnel are performing many more propeller tasks than the AFRC 9-skill level members. In fact, AFRC personnel do not spend any time performing propeller systems activities at the 9-skill level. Conversely, the AFRC personnel are performing more communication or navigation systems activities than their counterparts in the ANG.

DAFSC 1A100: These 55 members perform an average of 374 tasks and represent only 4 percent of the survey sample. Ninety-six percent of the total CEM-skill level personnel are in the Flight Engineer Job. Ninety-three percent of the AD CEM-skill level personnel are in the Flight Engineer Job, while 100 percent of the ANG and AFRC CEM-skill level personnel are in this job.

Table 37 reflects the percent time spent on duties by DAFSC 1A100 members. This table shows that although personnel are still performing a wide range of technical tasks, a large

TABLE 27
REPRESENTATIVE TASKS PERFORMED BY ALL 1A190 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=90)
C0100 Compute takeoff and landing data (TOLD)	98
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	96
A0024 Participate in maintenance debriefings	96
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	96
J0311 Monitor fuel consumption	96
N0432 Monitor engine instrument systems operations	96
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	96
H0254 Operate or monitor anti-ice systems	96
J0316 Operate or monitor fuel flow or transfer systems	96
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	96
A0018 Open or close crew entrance doors	94
A0040 Perform preflight inspections of cockpit or cabin compartments	94
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	94
A0037 Perform preflight inspections of aircraft for fluid leakage	94
C0096 Compute climb, cruise, or descent data	94
H0253 Operate or monitor air-conditioning systems	94
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	94
A0042 Perform preflight inspections of emergency exit systems	94
E0145 Operate or monitor APU or GTC bleed-air systems	94
N0431 Monitor engine fire or overheat detection systems operations	94
H0259 Operate or monitor oxygen systems	94
N0417 Analyze engine bleed-air systems malfunctions	94
N0420 Analyze engine fire or overheat detection systems malfunctions	94
C0092 Compute aircraft emergency performance data	93
N0441 Operate or monitor engine fuel systems	93
H0260 Operate or monitor pressurization systems	93
B0059 Coordinate maintenance requirements with crew chiefs	93
E0146 Operate or monitor APU or GTC electrical systems	93
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	93
G0224 Perform preflight inspections of electrical power systems	93
G0226 Perform preflight inspections of interior or exterior lighting systems	93
G0227 Perform preflight inspections of pitot-static systems or temperature probes	93
N0450 Perform preflight inspections of engine fire or overheat detection systems	93
H0233 Analyze air-conditioning systems malfunctions	93
K0361 Perform preflight inspections of LDG doors	93
H0234 Analyze anti-ice systems malfunctions	93

* Average Number of Tasks Performed - 367

TABLE 28
REPRESENTATIVE TASKS PERFORMED BY AD 1A190 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=48)
C0100 Compute takeoff and landing data (TOLD)	96
J0311 Monitor fuel consumption	96
N0432 Monitor engine instrument systems operations	96
B0059 Coordinate maintenance requirements with crew chiefs	96
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	94
A0024 Participate in maintenance debriefings	94
A0018 Open or close crew entrance doors	94
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	94
N0431 Monitor engine fire or overheat detection systems operations	94
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	94
A0042 Perform preflight inspections of emergency exit systems	94
N0417 Analyze engine bleed-air systems malfunctions	94
N0422 Analyze engine fuel systems malfunctions	94
N0420 Analyze engine fire or overheat detection systems malfunctions	94
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	92
A0040 Perform preflight inspections of cockpit or cabin compartments	92
N0433 Monitor engine thrust or torque indicating systems operations	92
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	92
A0037 Perform preflight inspections of aircraft for fluid leakage	92
C0096 Compute climb, cruise, or descent data	92
G0224 Perform preflight inspections of electrical power systems	92
J0316 Operate or monitor fuel flow or transfer systems	92
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	92
H0274 Perform preflight inspections of oxygen systems	92
G0227 Perform preflight inspections of pitot-static systems or temperature probes	92
H0254 Operate or monitor anti-ice systems	92
J0302 Analyze fuel flow systems malfunctions	92
N0450 Perform preflight inspections of engine fire or overheat detection systems	92
H0233 Analyze air-conditioning systems malfunctions	92
I0286 Analyze primary flight control systems malfunctions	92
H0234 Analyze anti-ice systems malfunctions	92
K0361 Perform preflight inspections of LDG doors	92
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	92
N0425 Analyze engine starter systems malfunctions	92
N0423 Analyze engine ignition systems malfunctions	92

* Average Number of Tasks Performed - 342

TABLE 29

REPRESENTATIVE TASKS PERFORMED BY ANG 1A190 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=27)
C0100 Compute takeoff and landing data (TOLD)	100
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	100
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	100
H0260 Operate or monitor pressurization systems	100
H0253 Operate or monitor air-conditioning systems	100
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	100
H0254 Operate or monitor anti-ice systems	100
E0146 Operate or monitor APU or GTC electrical systems	100
E0145 Operate or monitor APU or GTC bleed-air systems	100
H0261 Operate or monitor underfloor heating systems	100
E0147 Operate or monitor APU or GTC fire extinguishing systems	100
G0218 Operate or monitor electrical systems, other than APU or GTC electrical systems or special system buses	100
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	100
G0215 Monitor transformer rectifier (TR) systems operations	100
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	100
H0259 Operate or monitor oxygen systems	100
J0316 Operate or monitor fuel flow or transfer systems	100
J0319 Operate or monitor single-point refueling systems	100
A0021 Operate flightline motor vehicles	100
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	96
A0037 Perform preflight inspections of aircraft for fluid leakage	96
C0096 Compute climb, cruise, or descent data	96
A0040 Perform preflight inspections of cockpit or cabin compartments	96
N0441 Operate or monitor engine fuel systems	96
N0432 Monitor engine instrument systems operations	96
H0256 Operate or monitor de-ice systems	96
N0433 Monitor engine thrust or torque indicating systems operations	96
C0092 Compute aircraft emergency performance data	96
C0103 Determine fuel consumption using time, speed, and distance formulas and charts	96
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	96
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	96
I0295 Perform preflight inspections of primary flight control systems	96
B0063 Ground aircraft	96

* Average Number of Tasks Performed - 378

TABLE 30
REPRESENTATIVE TASKS PERFORMED BY AFRC 1A190 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=15)
C0100 Compute takeoff and landing data (TOLD)	100
A0026 Participate in premission briefings	100
A0030 Perform aircrew scanning duties	100
A0024 Participate in maintenance debriefings	100
A0040 Perform preflight inspections of cockpit or cabin compartments	100
C0101 Compute time, distance, or fuel using performance data formulas, charts, or graphs	100
C0105 Evaluate aircraft performance data	100
N0441 Operate or monitor engine fuel systems	100
C0092 Compute aircraft emergency performance data	100
C0096 Compute climb, cruise, or descent data	100
J0316 Operate or monitor fuel flow or transfer systems	100
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	100
G0218 Operate or monitor electrical systems, other than APU or GTC electrical systems or special system buses	100
A0037 Perform preflight inspections of aircraft for fluid leakage	100
H0257 Operate or monitor environmental bleed-air systems	100
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	100
J0311 Monitor fuel consumption	100
H0260 Operate or monitor pressurization systems	100
C0103 Determine fuel consumption using time, speed, and distance formulas and charts	100
C0102 Determine engine power requirements using time, speed, and distance formulas and charts	100
H0253 Operate or monitor air-conditioning systems	100
N0436 Monitor thrust reverse systems operations	100
N0438 Operate or monitor engine control systems	100
B0077 Perform in-flight inspections of aircraft	100
H0268 Perform preflight inspections of environmental bleed-air systems	100
F0181 Operate or monitor interphone systems	100
H0274 Perform preflight inspections of oxygen systems	100
G0224 Perform preflight inspections of electrical power systems	100
H0264 Perform preflight inspections of air-conditioning systems	100
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	100
N0447 Perform preflight inspections of engine cowlings	100
K0369 Perform preflight inspections of nosewheel steering systems	100
N0450 Perform preflight inspections of engine fire or overheat detection systems	100
K0368 Perform preflight inspections of LDG wheel assemblies	100
I0295 Perform preflight inspections of primary flight control systems	100
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	100

* Average Number of Tasks Performed - 425

TABLE 31

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD DAFSCs 1A171C AND 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE			ACTIVE DAFSC 1A190 (N=48)	DIFF
	DAFSC 1A171C (N=348)	DAFSC 1A190 (N=48)	DAFSC 1A190 (N=48)		
R592 Write job or position descriptions		16	68	-52	
R586 Review drafts of supplements or changes to directives, such as policy directives, instructions, or manuals	26	71	71	-45	
R543 Brief unit commander on status or flight engineer activities, other than training	32	75	75	-43	
R573 Evaluate operational readiness of crewmembers or aircraft	36	75	75	-39	
R574 Evaluate personnel for compliance with performance standards	48	85	85	-37	
R569 Establish performance standards for subordinates	38	75	75	-37	
R554 Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	26	63	63	-37	
R546 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	37	73	73	-36	
R540 Assign personnel to work areas or duty positions	27	63	63	-36	
R579 Initiate personnel action requests	12	48	48	-36	
T635 Procure training slots for formal schools or professional military education (PME)	13	48	48	-35	
R577 Implement safety or security programs	24	59	59	-35	
R581 Interpret policies, directives, or procedures for subordinates	45	79	79	-34	
R568 Establish organizational policies, such as operating instructions (OIS) or standard operating procedures (SOPs)	29	63	63	-34	
U652 Maintain personnel rosters					
R541 Assign sponsors for newly assigned personnel	21	54	54	-33	
U648 Initiate requests for TDY orders	20	53	53	-33	
R591 Write inspection reports	32	64	64	-32	
T636 Select individuals for specialized training	16	48	48	-32	
R567 Establish or manage flight or ground currency requirements	19	50	50	-31	
S608 Monitor continuation training	40	71	71	-31	
	36	67	67	-31	

TABLE 32

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG DAFSCs 1A171C AND 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ANG			ANG DAFSC 1A171C (N=146)	ANG DAFSC 1A190 (N=27)	DIFF
	DAFSC	1A171C	(N=146)			
S607	Maintain flight evaluation folders (FEFs)			5	66	-61
S601	Conduct in-flight or ground evaluations			13	74	-61
R574	Evaluate personnel for compliance with performance standards			18	77	-59
S605	Initiate flightcrew information file (FCIF) programs			5	59	-54
S598	Administer aircrew testing			16	70	-54
S609	Monitor flight manuals programs			18	71	-53
R543	Brief unit commander on status of flight engineer activities, other than training			17	67	-50
R578	Initiate actions required due to substandard performance of personnel			13	59	-46
T628	Evaluate training methods or techniques of instructors			14	59	-45
S599	Compile data for records, reports, logs, or trend analyses			23	67	-44
S606	Maintain FCIFs			8	52	-44
R568	Establish organizational policies, such as operating instructions (OIS) or standard operating procedures (SOPs)			12	55	-43
R569	Establish performance standards for subordinates			13	56	-43
T623	Develop written tests			19	59	-40
R552	Coordinate crew assignments with flight scheduling			27	67	-40
R573	Evaluate operational readiness of crewmembers or aircraft			23	63	-40
T627	Evaluate progress of trainees			30	67	-37
R540	Assign personnel to work areas or duty positions			13	48	-35
R586	Review drafts of supplements or changes to directives, such as policy directives, instructions, or manuals			14	48	-34
R580	Inspect personnel for compliance with military standards			21	55	-34
R555	Determine or establish work assignments or priorities			21	55	-34
T626	Evaluate effectiveness of training programs, plans, or procedures			18	52	-34
U653	Maintain publications libraries, such as TO libraries or time compliance technical orders (TCTSS)			18	51	-33

TABLE 33

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AFRC DAFSCS 1A171C AND 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	AFRC			DIFF
	DAFSC (N=278)	1A171C (N=15)	1A190 (N=15)	
T628	Evaluate training methods or techniques of instructors		16	87
S601	Conduct in-flight or ground evaluations		23	93
S608	Monitor continuation training		21	87
T626	Evaluate effectiveness of training programs, plans or procedures		15	80
R550	Conduct supervisory performance feedback sessions		19	80
S598	Administer aircrew testing		26	87
R574	Evaluate personnel for compliance with performance standards		30	85
S603	Evaluate contractor-developed programs		4	60
S607	Maintain flight evaluation folders (FEFs)		11	67
R546	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops		19	73
F203	Program L-band communications systems		26	80
S599	Compile data for records, reports, logs, or trend analyses		27	80
T619	Determine training requirements		20	73
R573	Evaluate operational readiness of crewmembers or aircraft		27	80
R558	Develop or establish work methods or procedures		21	73
S605	Initiate flightcrew information file (FCIF) programs		8	60
R568	Establish organizational policies, such as operating instructions (OIS) or standard operating procedures (SOPs)		10	60
S609	Monitor flight manuals programs		17	67
R569	Establish performance standards for subordinates		17	67
A6	Coordinate flight operations with ramp coordinators or supervisors of flying (SOFs)		37	86
F211	Update L-band communications systems		26	74
F201	Perform unscheduled maintenance on communications or navigation systems		26	74
S604	Evaluate inspection report findings or inspection procedures		6	54
R562	Develop self-inspection or self-assessment program checklists		13	60
				-47

TABLE 34

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY AND ANG DAFSC 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		ACTIVE			ANG			
		DAFSC (N=48)	1A190 (N=27)	DAFSC (N=48)	1A190 (N=27)	DAFSC (N=48)	1A190 (N=27)	DIFF
R0592	Write job or position descriptions					69	19	50
R0595	Write recommendations for awards or decorations					65	26	39
B0075	Perform hostile environment repairs					35	81	-46
00468	Perform unscheduled maintenance on propeller systems					17	63	-46
00466	Perform operational checks on propeller negative torque systems					44	89	-45
00464	Perform operational checks on propeller anti-ice or de-ice systems					44	89	-45
00459	Analyze propeller pitchlock systems malfunctions					44	89	-45
00458	Analyze propeller negative torque systems malfunctions					44	89	-45
00463	Operate or monitor propeller anti-ice or de-ice systems					44	89	-45
00462	Monitor propeller pitchlock systems operations					44	89	-45
00461	Monitor propeller negative torque systems operations					44	89	-45
P0484	Perform airdrop checklist procedures, other than for high-altitude low-opening (HALO) paratroops					42	85	-44
00456	Analyze propeller anti-ice or de-ice systems malfunctions					46	89	-43
N0437	Operate TD systems					46	89	-43
00465	Perform operational checks on propeller feathering systems					46	89	-43
00470	Service propeller systems					25	67	-42
R0544	Certify duty performance for payroll					0	41	-41
N0427	Analyze temperature datum (TD) systems malfunctions					48	89	-41
B0078	Perform over-the-wing refueling or defueling operations					15	56	-41
00460	Monitor propeller electronic governor systems operations					44	85	-41
00467	Perform operational checks on propeller systems controls					44	85	-41
H0271	Perform preflight inspections of environmental fire suppression bottles					35	74	-39
00457	Analyze propeller electronic governor systems malfunctions					44	81	-38

TABLE 35

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ACTIVE DUTY AND AFRC DAFSC 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE			AFRC		
	DAFSC (N=48)	1A190 (N=15)	DIFF	DAFSC (N=48)	1A190 (N=15)	DIFF
Q0465	Perform operational checks on propeller feathering systems	46	0	46	0	46
O0456	Analyze propeller anti-ice or de-ice systems malfunctions	46	0	46	0	46
N0437	Operate TD systems	46	0	46	0	46
F0182	Operate or monitor L-band communications systems	25	93	-68	-68	-68
F0196	Perform preflight inspections of L-band communications systems equipment	25	87	-62	-62	-62
F0203	Program L-band communications systems	19	80	-61	-61	-61
F0193	Perform preflight inspections of FSASSs	27	87	-60	-60	-60
N0436	Monitor thrust reverse systems operations	40	100	-60	-60	-60
F0202	Program communications systems, other than SATCOM, secure, or L-band communications systems	8	67	-58	-58	-58
F0186	Operate or monitor SATCOM or secure communications systems	19	73	-55	-55	-55
F0201	Perform unscheduled maintenance on communications or navigation systems	19	73	-55	-55	-55
H0250	Operate environmental fire extinguishing systems	31	87	-55	-55	-55
F0206	Program, operate, or update FSASS	31	87	-55	-55	-55
F0167	Analyze fuel savings advisory systems (FSAS) malfunctions	31	87	-55	-55	-55
Q0533	Perform, practice, or simulate thrust reverse failure procedures	40	93	-54	-54	-54
N0428	Analyze thrust reverse systems malfunctions	42	93	-52	-52	-52
K0343	Install brake deactivation kits	29	80	-51	-51	-51
F0212	Update SATCOM or secure communications systems	10	60	-50	-50	-50
F0211	Update L-band communications systems	23	73	-50	-50	-50
J0320	Operate or monitor wing pressurization systems	13	60	-48	-48	-48
J0326	Perform preflight inspections of in-flight refueling systems	54	100	-46	-46	-46
G0219	Operate or monitor emergency power generator systems	54	100	-46	-46	-46
G0225	Perform preflight inspections of emergency electrical power generators	54	100	-46	-46	-46

TABLE 36

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG AND AFRC DAFSC 1A190 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ANG (N=27)	ANG			AFRC		
		DAFSC 1A190 (N=15)	DAFSC 1A190 (N=15)	DIFF	DAFSC 1A190 (N=15)	AFRC DAFSC 1A190 (N=15)	DIFF
00465 Perform operational checks on propeller feathering systems	89	*	*	89	*	*	89
00466 Perform operational checks on propeller negative torque systems	89	*	*	89	*	*	89
00459 Analyze propeller pitchlock systems malfunctions	89	*	*	89	*	*	89
00456 Analyze propeller anti-ice or de-ice systems malfunctions	89	*	*	89	*	*	89
N0437 Operate TD systems	89	*	*	89	*	*	89
00462 Monitor propeller pitchlock systems operations	89	*	*	89	*	*	89
00463 Operate or monitor propeller anti-ice or de-ice systems	89	*	*	89	*	*	89
00464 Perform operational checks on propeller anti-ice or de-ice systems	89	*	*	89	*	*	89
00461 Monitor propeller negative torque systems operations	89	*	*	89	*	*	89
00458 Analyze propeller negative torque systems malfunctions	89	*	*	89	*	*	89
00467 Perform operational checks on propeller systems controls	85	*	*	85	*	*	85
00460 Monitor propeller electronic governor systems operations	85	*	*	85	*	*	85
00457 Analyze propeller electronic governor systems malfunctions	81	*	*	81	*	*	81
00469 Recommend or perform corrective actions after analyses of propeller systems malfunctions	78	*	*	78	*	*	78
N0427 Analyze temperature datum (TD) systems malfunctions	89	13	13	76	13	13	72
Q0527 Perform, practice, or simulate propeller failure procedures	85	*	*	72	*	*	67
00470 Service propeller systems	67	*	*	67	*	*	67
<hr/>							
N0436 Monitor thrust reverse systems operations	26	100	100	-74	100	100	-74
F0182 Operate or monitor L-band communications systems	22	93	93	-71	93	93	-71
J0318 Operate or monitor in-flight refueling systems	30	100	100	-70	100	100	-70
J0315 Operate or monitor air refueling systems	30	100	100	-70	100	100	-70
J0322 Perform preflight inspections of air refueling systems	33	100	100	-67	100	100	-67
F0206 Program, operate, or update FSAs	22	87	87	-64	87	87	-64
F0196 Perform preflight inspections of L-band communications systems equipment	22	87	87	-64	87	87	-64
J0326 Perform preflight inspections of in-flight refueling systems	37	100	100	-63	100	100	-63

TABLE 37

RELATIVE PERCENT TIME SPENT ON DUTIES BY CEM-SKILL LEVEL DAFSC GROUPS

DUTIES	TOTAL IA100 (N=55)	ACTIVE IA100 (N=27)		ANG IA100 (N=23)		AFRC IA100 (N=5)
		10	11	3	4	
A PERFORMING GENERAL AIRCREW ACTIVITIES	10	10	11	3	4	9
B PERFORMING GENERAL MAINTENANCE ACTIVITIES	3	3	4	4	4	3
C PERFORMING MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS	4	4	4	4	4	4
D PERFORMING AUXILIARY SYSTEMS ACTIVITIES	3	2	3	3	3	3
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES	6	6	6	6	6	6
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES	5	6	4	4	4	6
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES	4	3	4	4	4	4
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES	10	9	10	9	10	10
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES	3	3	4	4	3	3
J PERFORMING FUEL SYSTEMS ACTIVITIES	5	5	4	4	4	4
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES	6	6	6	6	6	6
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS ACTIVITIES	1	1	*	*	1	1
M PERFORMING PNEUDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES	2	2	3	3	3	3
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES	8	8	9	9	9	9
O PERFORMING PROPELLER SYSTEMS ACTIVITIES	2	1	3	3	1	1
P PERFORMING SPECIAL MISSION ACTIVITIES	1	1	1	1	1	1
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES	6	6	6	6	7	7
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	11	12	11	11	9	9
S PERFORMING EVALUATION ACTIVITIES	2	3	1	1	2	2
T PERFORMING TRAINING ACTIVITIES	4	4	3	3	5	5
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	3	4	2	2	3	3
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	*	*	*	*	1	1

* less than 1 percent

percentage of their time is devoted to supervisory and management activities. Twelve percent of the AD CEM-skill level members are performing supervisory activities, while 11 percent and 9 percent of the ANG and AFRC are performing supervisory activities.

Representative tasks performed by CEM-skill level members are reflected in Tables 38-41. Table 42 reflects tasks which best differentiate between AD 9- and CEM-skill levels. This table clearly shows the much higher devotion to supervisory tasks at the 9-skill level than the CEM-skill level, while CEM-skill level personnel concern themselves with higher level management related tasks.

Table 43 compares the ANG 9- and CEM-skill levels and shows a higher percentage of CEM-skill level members performing supervisory and management related tasks.

Table 44 reflects the tasks, which best differentiate between AFRC 9- and CEM-skill levels. Unlike their AD and ANG counterparts, the AFRC 9-skill levels still are more technically oriented than the 9-skill levels who perform training and supervisory tasks at a much higher percentage. A high percentage of personnel at the 9-skill level are still performing a wide range of technical tasks, while a much lower percentage of personnel at the CEM-skill level are performing technical tasks.

Tables 45 and 46 reflect the differences between the AD and ANG and AD and AFRC members. Table 45 indicates much heavier involvement in technical tasks performed by the ANG than the AD personnel at the CEM-skill level. Conversely, many more AFRC personnel are performing supervisory and management related tasks than the AD personnel at the CEM-skill level.

Table 47 compares the ANG and AFRC CEM-skill levels and reflects results very similar to the 9-skill level differences of the Reserve Forces. AFRC personnel are still performing a high percentage of communication or navigation systems activities, while a higher percentage of ANG CEM-skill level members are working with propeller systems.

Summary

Progression in the Flight Engineer-Performance Qualified career ladder follows a somewhat regular pattern of highly technical job focus at the lower skill levels, with a broadening into supervision and management at the 9- and CEM-skill levels. While AD craftsmen at the 7-skill level begin to shift to supervisory activities, most of their time is still spent performing technical functions. It is not until AD members are 9- and CEM-skill level members that they perform a substantial amount of supervisory activities, but still are spending time working on the technical tasks of the career field. The ANG members spend more time on propeller systems activities than both the AD and AFRC members, while AFRC members are performing preflight inspections at all skill levels. The ANG and AFRES do perform more supervisory and management activities at the 9- and CEM-skill levels, but still spend most of their time performing the technical tasks associated with this career field.

TABLE 38

REPRESENTATIVE TASKS PERFORMED BY ALL 1A100 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=55)
A0002 Brief aircraft commander or crew on premission status of aircraft	96
N0450 Perform preflight inspections of engine fire or overheat detection systems	96
A0040 Perform preflight inspections of cockpit or cabin compartments	95
A0037 Perform preflight inspections of aircraft for fluid leakage	95
A0024 Participate in maintenance debriefings	95
A0023 Participate in crew operations debriefings	95
G0224 Perform preflight inspections of electrical power systems	95
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	95
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	95
G0226 Perform preflight inspections of interior or exterior lighting systems	95
I0295 Perform preflight inspections of primary flight control systems	95
H0259 Operate or monitor oxygen systems	95
K0368 Perform preflight inspections of LDG wheel assemblies	95
E0145 Operate or monitor APU or GTC bleed-air systems	95
K0361 Perform preflight inspections of LDG doors	95
E0146 Operate or monitor APU or GTC electrical systems	95
Q0506 Perform, practice, or simulate APU or GTC fire procedures	95
C0100 Compute takeoff and landing data (TOLD)	93
J0311 Monitor fuel consumption	93
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	93
C0096 Compute climb, cruise, or descent data	93
C0092 Compute aircraft emergency performance data	93
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	93
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	93
N0432 Monitor engine instrument systems operations	93
H0260 Operate or monitor pressurization systems	93
B0059 Coordinate maintenance requirements with crew chiefs	93
G0215 Monitor transformer rectifier (TR) systems operations	93
N0447 Perform preflight inspections of engine cowlings	93
E0151 Perform preflight inspections of APU or GTC bleed-air systems	93
E0152 Perform preflight inspections of APU or GTC electrical systems	93
A0026 Participate in premission briefings	93
N0449 Perform preflight inspections of engine fire extinguishing systems	93
F0190 Perform preflight inspections of CVRs	93
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	93

* Average Number of Tasks Performed - 374

TABLE 39

REPRESENTATIVE TASKS PERFORMED BY ACTIVE DUTY 1A100 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=27)
R0546 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	93
F0185 Operate or monitor radios	93
F0181 Operate or monitor interphone systems	93
J0311 Monitor fuel consumption	93
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	93
N0432 Monitor engine instrument systems operations	93
A0037 Perform preflight inspections of aircraft for fluid leakage	93
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	93
G0224 Perform preflight inspections of electrical power systems	93
G0215 Monitor transformer rectifier (TR) systems operations	93
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	93
A0018 Open or close crew entrance doors	93
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	93
I0295 Perform preflight inspections of primary flight control systems	93
A0002 Brief aircraft commander or crew on premission status of aircraft	93
G0226 Perform preflight inspections of interior or exterior lighting systems	93
G0221 Perform preflight inspections of batteries or battery relays	93
E0146 Operate or monitor APU or GTC electrical systems	93
N0450 Perform preflight inspections of engine fire or overheat detection systems	93
E0141 Monitor APU or GTC fire detection systems operations	93
E0136 Analyze APU or GTC electrical systems malfunctions	93
E0137 Analyze APU or GTC fire detection systems malfunctions	93
C0100 Compute takeoff and landing data (TOLD)	89
H0253 Operate or monitor air-conditioning systems	89
H0257 Operate or monitor environmental bleed-air systems	89
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	89
C0092 Compute aircraft emergency performance data	89
A0040 Perform preflight inspections of cockpit or cabin compartments	89
H0260 Operate or monitor pressurization systems	89
C0096 Compute climb, cruise, or descent data	89
A0024 Participate in maintenance debriefings	89
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	89
A0023 Participate in crew operations debriefings	89
B0059 Coordinate maintenance requirements with crew chiefs	89
H0264 Perform preflight inspections of air-conditioning systems	89
K0349 Monitor LDG system normal extensions or retractions	89

* Average Number of Tasks Performed - 334

TABLE 40

REPRESENTATIVE TASKS PERFORMED BY ANG 1A100 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=23)
C0100 Compute takeoff and landing data (TOLD)	100
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	100
A0023 Participate in crew operations debriefings	100
C0105 Evaluate aircraft performance data	100
A0040 Perform preflight inspections of cockpit or cabin compartments	100
C0096 Compute climb, cruise, or descent data	100
A0024 Participate in maintenance debriefings	100
B0059 Coordinate maintenance requirements with crew chiefs	100
C0092 Compute aircraft emergency performance data	100
H0261 Operate or monitor underfloor heating systems	100
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	100
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	100
I0295 Perform preflight inspections of primary flight control systems	100
F0190 Perform preflight inspections of CVRs	100
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	100
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	100
N0450 Perform preflight inspections of engine fire or overheat detection systems	100
B0077 Perform in-flight inspections of aircraft	100
A0009 Evaluate or correct discrepancies or contradictions in procedures reported by crewmembers	100
A0042 Perform preflight inspections of emergency exit systems	100
K0361 Perform preflight inspections of LDG doors	100
A0002 Brief aircraft commander or crew on premission status of aircraft	100
H0259 Operate or monitor oxygen systems	100
N0449 Perform preflight inspections of engine fire extinguishing systems	100
C0102 Determine engine power requirements using time, speed, and distance formulas and charts	100
E0145 Operate or monitor APU or GTC bleed-air systems	100
K0368 Perform preflight inspections of LDG wheel assemblies	100
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	100
C0101 Compute time, distance, or fuel using performance data formulas, charts, or graphs	100
A0026 Participate in premission briefings	100
A0015 Interpret marshalling signals	100
A0021 Operate flightline motor vehicles	100
N0445 Perform preflight inspections of engine air intakes	100

* Average Number of Tasks Performed - 408

TABLE 41
REPRESENTATIVE TASKS PERFORMED BY AFRC 1A100 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=5)
H0257 Operate or monitor environmental bleed-air systems	100
G0226 Perform preflight inspections of interior or exterior lighting systems	100
H0259 Operate or monitor oxygen systems	100
H0260 Operate or monitor pressurization systems	100
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	100
E0150 Perform preflight inspections of APU hydraulic starting systems	100
E0151 Perform preflight inspections of APU or GTC bleed-air systems	100
H0264 Perform preflight inspections of air-conditioning systems	100
K0361 Perform preflight inspections of LDG doors	100
K0362 Perform preflight inspections of LDG emergency systems	100
E0155 Perform preflight inspections of APU or GTC fuel systems	100
K0364 Perform preflight inspections of LDG normal systems	100
F0189 Perform preflight inspections of communications systems equipment, other than SATCOM, secure, or L-band communications systems equipment	100
H0270 Perform preflight inspections of environmental fire or overheat detection systems	100
N0431 Monitor engine fire or overheat detection systems operations	100
N0432 Monitor engine instrument systems operations	100
M0401 Operate or monitor hydraulic systems to include emergency systems, other than cooling systems	100
H0274 Perform preflight inspections of oxygen systems	100
H0275 Perform preflight inspections of pressurization systems	100
E0156 Perform preflight inspections of APU or GTC oil systems	100
F0181 Operate or monitor interphone systems	100
M0406 Perform preflight inspections of hydraulic systems to include emergency systems, other than cooling systems	100
N0447 Perform preflight inspections of engine cowlings	100
E0152 Perform preflight inspections of APU or GTC electrical systems	100
E0153 Perform preflight inspections of APU or GTC fire detection systems	100
E0154 Perform preflight inspections of APU or GTC fire extinguishing systems	100
G0227 Perform preflight inspections of pitot-static systems or temperature probes	100
G0224 Perform preflight inspections of electrical power systems	100
H0253 Operate or monitor air-conditioning systems	100
F0190 Perform preflight inspections of CVRs	100
K0367 Perform preflight inspections of LDG tires	100
K0360 Perform preflight inspections of LDG cylinders or snubbers	100
G0225 Perform preflight inspections of emergency electrical power generators	100

* Average Number of Tasks Performed - 430

TABLE 42

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD DAFSCs 1A190 AND 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE DAFSC 1A190 (N=48)	ACTIVE DAFSC 1A100 (N=27)	ACTIVE DAFSC 1A100 (N=27)	DIFF
R559 Develop or establish work schedules	65	11	54	
R551 Conduct supervisory orientations for newly assigned personnel	65	19	46	
R540 Assign personnel to work areas or duty positions	62	18	44	
R589 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	62	18	44	
R541 Assign sponsors for newly assigned personnel	52	11	41	
R556 Develop flight scheduling methods	54	15	39	
R552 Coordinate crew assignments with flight scheduling	60	22	38	
R555 Determine or establish work assignments or priorities	69	34	35	
Q527 Perform, practice, or simulate propeller failure procedures	50	15	35	
R550 Conduct supervisory performance feedback sessions	65	30	35	
T636 Select individuals for specialized training	50	19	31	
R595 Write recommendations for awards or decorations	65	34	31	
P496 Perform simulated combat operations	46	15	31	
R594 Write or endorse military performance reports	56	26	30	
G223 Perform preflight inspections of electrical inverter systems	71	41	30	
R558 Develop or establish work methods or procedures	71	41	30	
A47 Pick up or turn in aircraft life support equipment	52	22	30	
<hr/>				
H281 Recommend or perform corrective actions after analyses or environmental or cooling systems malfunctions	52	89	-37	
R549 Conduct staff assistance visits, inspections, or audits	42	78	-36	
Q533 Perform, practice, or simulate thrust reverse failure procedures	40	74	-34	
F182 Operate or monitor L-band communications systems	25	59	-34	
N428 Analyze thrust reverse systems malfunctions	42	74	-32	
E134 Analyze auxiliary power unit (APU) hydraulic starting systems malfunctions	46	78	-32	

TABLE 43

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG DAFSCs 1A190 AND 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ANG			ANG		
	DAFSC (N=27)	1A190 (N=23)	1A100 (N=23)	DAFSC (N=27)	1A190 (N=23)	1A100 (N=23)
S607	Maintain flight evaluation folders (FEEs)	67	31	36	31	36
R595	Write recommendations for awards or decorations	26	83	57	83	57
R579	Initiate personnel action requests	22	69	47	69	47
R589	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	37	83	46	83	46
R575	Evaluate personnel for promotion, demotion, reclassification, or special awards	37	83	46	83	46
U652	Maintain personnel rosters	33	78	45	78	45
R551	Conduct supervisory orientations for newly assigned personnel	33	78	45	78	45
T612	Brief personnel concerning training programs or matters	30	74	44	74	44
R541	Assign sponsors for newly assigned personnel	26	70	44	70	44
R592	Write job or position descriptions	19	61	42	61	42
T618	Counsel trainees on training progress	41	83	42	83	42
R556	Develop flight scheduling methods	41	83	42	83	42
R593	Write or endorse civilian performance appraisals	15	57	42	57	42
R559	Develop or establish work schedules	37	78	41	78	41
F198	Perform preflight inspections of radar systems	33	74	41	74	41
R550	Conduct supervisory performance feedback sessions	33	74	41	74	41
R562	Develop self-inspection or self-assessment program checklists	33	74	41	74	41
R583	Perform recruiting activities	30	70	40	70	40
R553	Counsel subordinates concerning personal matters	48	87	39	87	39
R546	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	44	82	38	82	38
R544	Certify duty performance for payroll	41	79	38	79	38
C97	Computer flight payloads or offloads	37	74	37	74	37
R560	Develop organizational or functional charts	33	69	36	69	36

TABLE 44

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AFRC DAFSCs 1A190 AND 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	AFRC DAFSC 1A190 (N=15)	AFRC DAFSC 1A100 (N=5)	DIFF			
				AFRC DAFSC 1A100 (N=5)	AFRC DAFSC 1A100 (N=5)	DIFF
F201	73	0	73			
J322	100	40	60			
F2036	80	20	60			
A8	60	0	60			
J315	100	40	60			
J326	100	40	60			
J318	100	40	60			
Q533	93	40	53			
J305	93	40	53			
J300	93	40	53			
F211	73	20	53			
C91	93	40	53			
D112	53	0	53			
R589	20	100	-80			
R584	7	80	-73			
T635	13	80	-67			
V664	40	100	-60			
N437	0	60	-60			
V662	27	80	-53			
R583	27	80	-53			
R556	27	80	-53			
R539	27	80	-53			
R592	27	80	-53			
R585	7	60	-53			

TABLE 45

TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD AND ANG DAFSC 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	ACTIVE DAFSC (N=27)	ANG DAFSC			DIFF
		1A100 (N=23)	1A100 (N=23)	ANG DAFSC	
R0544				*	-78
Q0527	Certify duty performance for payroll	15	91	91	-76
B0075	Perform, practice, or simulate propeller failure procedures	15	87	87	-72
J0323	Perform hostile environment repairs	22	91	91	-69
R0552	Perform preflight inspections of external fuel tanks	22	91	91	-69
R0556	Coordinate crew assignments with flight scheduling	15	83	83	-68
R0467	Develop flight scheduling methods	15	83	83	-68
O0463	Perform operational checks on propeller systems controls	19	87	87	-68
N0437	Operate or monitor propeller anti-ice or de-ice systems	19	87	87	-68
O0464	Operate TD systems	19	87	87	-68
O0465	Perform operational checks on propeller anti-ice or de-ice systems	19	87	87	-68
O0456	Perform operational checks on propeller feathering systems	19	87	87	-68
O0469	Analyze propeller anti-ice or de-ice systems malfunctions	19	87	87	-68
O0466	Recommend or perform corrective actions after analyses of propeller systems malfunctions	19	87	87	-68
R0559	Perform operational checks on propeller negative torque systems	19	87	87	-68
	Develop or establish work schedules	11	78	78	-67
O0459	Analyze propeller pitchlock systems malfunctions	19	83	83	-64
O0461	Monitor propeller negative torque systems operations	19	83	83	-64
R0589	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	19	83	83	-64
R0540	Assign personnel to work areas or duty positions	19	83	83	-64
O0458	Analyze propeller negative torque systems malfunctions	19	83	83	-64
R0539	Annotate time and attendance sheets for civilian employees	*	61	61	-61
R0542	Authorize Reserve training activities	*	61	61	-61
R0551	Conduct supervisory orientations for newly assigned personnel	19	78	78	-60
O0457	Analyze propeller electronic governor systems malfunctions	19	78	78	-60

TABLE 46

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
AD AND AFRC DAFSC 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	ACTIVE			AFRC		
	DAFSC (N=27)	1A100 (N=5)	DIFF	DAFSC (N=27)	1A100 (N=5)	DIFF
R0589 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	19	100	-81			
R0539 Annotate time and attendance sheets for civilian employees	0	80	-80			
R0542 Authorize Reserve training activities	0	80	-80			
R0594 Write or endorse military performance reports	26	100	-74			
V0664 Evaluate serviceability of equipment, tools, parts, or supplies	26	100	-74			
T0616 Conduct refresher, tactical, or special mission training	30	100	-70			
R0584 Plan layouts of facilities	11	80	-69			
R0541 Assign sponsors for newly assigned personnel	11	80	-69			
R0559 Develop or establish work schedules	11	80	-69			
R0587 Review maintenance reports	33	100	-67			
R0556 Develop flight scheduling methods	15	80	-65			
M0415 Service pneumatic systems	15	80	-65			
V0662 Coordinate maintenance of equipment with appropriate agencies	15	80	-65			
V0665 Identify and report equipment or supply problems	15	80	-65			
T0632 Participate in currency training seminars	37	100	-63			
T0618 Counsel trainees on training progress	37	100	-63			
S0600 Complete accident or incident reports	19	80	-61			
T0636 Select individuals for specialized training	19	80	-61			
R0540 Assign personnel to work areas or duty positions	19	80	-61			
K0372 Service LDG or brake systems	19	80	-61			
T0635 Procure training slots for formal schools or professional military education (PME)	19	80	-61			
R0551 Conduct supervisory orientations for newly assigned personnel	19	80	-61			
R0544 Certify duty performance for payroll	*	60	-60			
V0671 Pick up, deliver, or store equipment, tools, parts, or supplies, other than life support equipment	60					

TABLE 47

TASKS WHICH BEST DIFFERENTIATE BETWEEN
ANG AND AFRC DAFSC 1A100 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		ANG			AFRC		
		DAFSC (N=27)	1A100 (N=5)	DIFF	DAFSC (N=5)	1A100 (N=5)	DIFF
M0394	Analyze ATM malfunctions	61	*	61			
B0065	Inspect nonpowered AGE for operating condition or serviceability	78	20	58			
C0095	Compute airdrop data	91	40	51			
G0223	Perform preflight inspections of electrical inverter systems	91	40	51			
C00456	Analyze propeller anti-ice or de-ice systems malfunctions	87	40	47			
C00466	Perform operational checks on propeller negative torque systems	87	40	47			
C0469	Recommend or perform corrective actions after analyses of propeller systems malfunctions	87	40	47			
C0464	Perform operational checks on propeller anti-ice or de-ice systems	87	40	47			
<hr/>							
V0664	Evaluate serviceability of equipment, tools, parts, or supplies	22	100	-78			
E0150	Perform preflight inspections of APU hydraulic starting systems	39	100	-61			
E0144	Operate or monitor APU hydraulic starting systems	43	100	-57			
F0189	Perform preflight inspections of communications systems equipment, other than SATCOM, secure, or L-band communications systems equipment	43	100	-57			
F0196	Perform preflight inspections of L-band communications systems equipment	4	60	-56			
U0657	Prepare administrative or classified materials or documents for mailing, transporting, or issue	4	60	-56			
V0662	Coordinate maintenance of equipment with appropriate agencies	26	80	-54			
V0665	Identify and report equipment or supply problems	26	80	-54			
T0632	Participate in currency training seminars	48	100	-52			
F0182	Operate or monitor L-band communications systems	9	60	-51			
S0602	Evaluate aircraft engineering change proposals (ECPs)	9	60	-51			
D0124	Perform preflight inspections of aerial defensive systems	30	80	-50			
F0194	Perform preflight inspections of GPSs	30	80	-50			
S0607	Maintain flight evaluation folders (FEFs)	30	80	-50			
F0206	Program, operate, or update FSAs	13	60	-47			
S0600	Complete accident or incident reports	35	80	-45			

TRAINING ANALYSIS

Occupational survey data are sources of information, which can be useful in the development, and revision of relevant training programs for entry-level personnel. Factors used to evaluate entry-level AFSC 1A1X1C Flight Engineer (Performance Qualified) training include jobs being performed by first-assignment (1-48 months TICF) personnel, overall distribution of first-assignment personnel across career ladder jobs, percent first-job (1-24 months TICF) and first-assignment members spent performing specific tasks or using specific equipment items, ratings of how much TE tasks should receive informal training, and ratings of relative TD.

First-Assignment Personnel

In this study, there are 215 AD AFSC 1A1X1C members in their first assignment (1-48 months TICF), representing only 16 percent of all surveyed AFSC 1A1X1C personnel (see Figure 2). The remaining personnel (84 percent) fall into the Not Grouped category because they are still attending their designated airframe school. Table 48 shows the relative percent of time spent across duties by first-assignment AFSC 1A1X1C members. The largest percent of their time (14 percent) is spent performing tasks related to general aircrew activities. Another 10 percent is spent performing power plant systems activities. Representative tasks performed by members in this group are listed in Table 49. Examples of these tasks include computing takeoff and landing data (TOLD), performing preflight inspections of cockpit or cabin compartments, performing preflight inspections of aircraft for fluid leakage, and participating in maintenance debriefings.

Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary task factors that can help training development personnel decide which tasks to emphasize for entry-level training. These ratings, based on the judgments of senior career ladder NCOs, provide a rank-ordering of those tasks considered important for airmen with 1-48 months TICF training (TE) and a measure of the relative task difficulty (TD). When combined with data on the percentages of entry-level personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages for performance may warrant resident training. Those tasks receiving high task factor ratings, but low percentages for performance, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for new personnel. These decisions must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, AFOMS developed a computer program that incorporates these secondary factors and the percentage of 1-48 months TICF personnel performing tasks to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table

1A1X1C FIRST ASSIGNMENT PERSONNEL
(N=215)

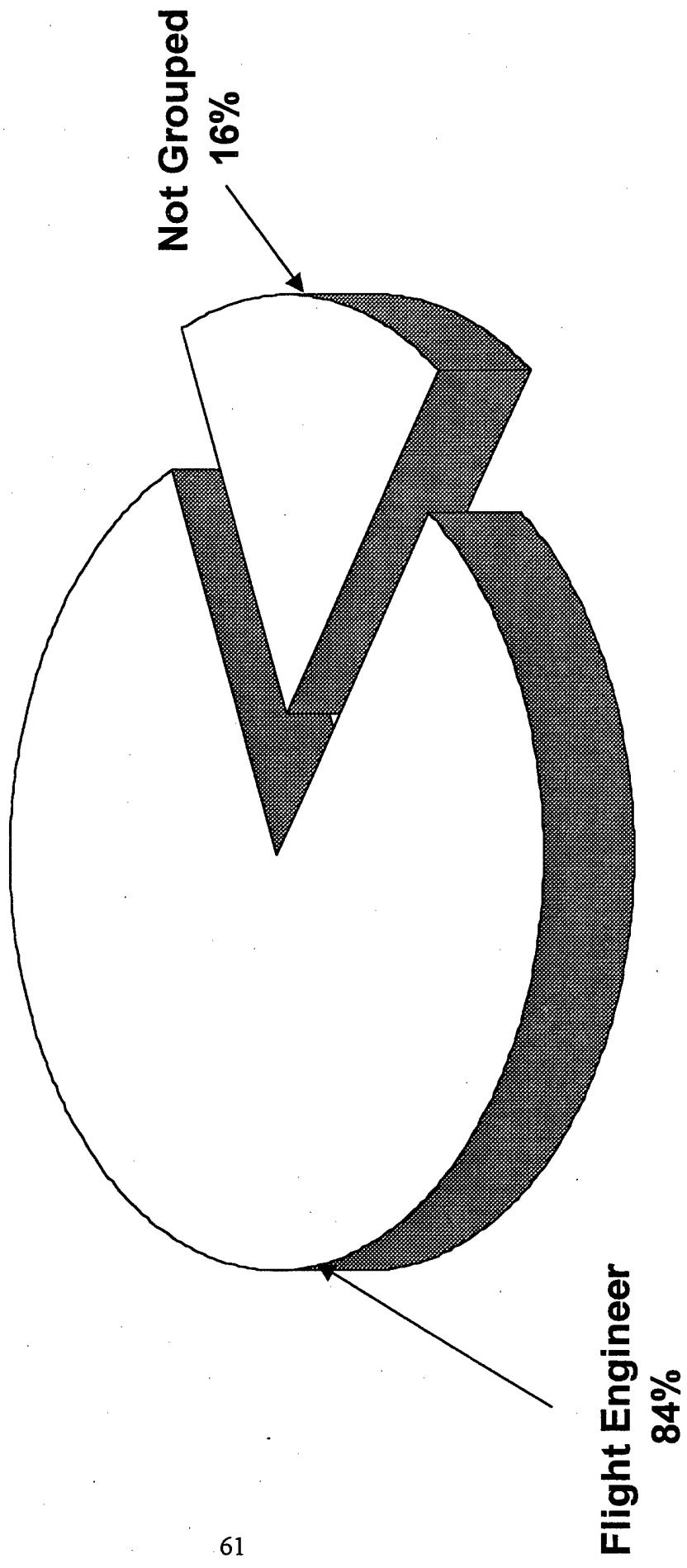


FIGURE 2

TABLE 48
 RELATIVE PERCENT TIME SPENT ON DUTIES BY
 AD 1-48 MONTHS TICF MEMBERS
 (N=215)

DUTIES	PERCENT TIME SPENT
A PERFORMING GENERAL AIRCREW ACTIVITIES	14
B PERFORMING GENERAL MAINTENANCE ACTIVITIES	4
C PERFORMING MISSION PLANNING AND PERFORMANCE DATA COMPUTATIONS	5
D PERFORMING AUXILIARY SYSTEMS ACTIVITIES	2
E PERFORMING AUXILIARY POWER UNIT (APU) OR GAS TURBINE COMPRESSOR (GTC) SYSTEMS ACTIVITIES	7
F PERFORMING COMMUNICATION OR NAVIGATION SYSTEMS ACTIVITIES	5
G PERFORMING ELECTRICAL SYSTEMS ACTIVITIES	6
H PERFORMING ENVIRONMENTAL OR COOLING SYSTEMS ACTIVITIES	12
I PERFORMING FLIGHT CONTROL SYSTEMS ACTIVITIES	4
J PERFORMING FUEL SYSTEMS ACTIVITIES	5
K PERFORMING LANDING GEAR (LDG) AND BRAKE SYSTEMS ACTIVITIES	7
L PERFORMING MALFUNCTION ANALYSIS DETECTION AND RECORDING (MADAR) SYSTEMS ACTIVITIES	1
M PERFORMING PNEUDRAULIC OR HYDRAULIC SYSTEMS ACTIVITIES	3
N PERFORMING POWER PLANT SYSTEMS ACTIVITIES	10
O PERFORMING PROPELLER SYSTEMS ACTIVITIES	3
P PERFORMING SPECIAL MISSION ACTIVITIES	1
Q PERFORMING EMERGENCY PROCEDURE ACTIVITIES	7
R PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	1
S PERFORMING EVALUATION ACTIVITIES	*
T PERFORMING TRAINING ACTIVITIES	*
U PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	1
V PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	*

TABLE 49

REPRESENTATIVE TASKS PERFORMED BY AD
PERSONNEL WITH 1-48 MONTHS TICF

TASKS	PERCENT MEMBERS PERFORMING (N=215)
C0100 Compute takeoff and landing data (TOLD)	98
A0040 Perform preflight inspections of cockpit or cabin compartments	97
A0037 Perform preflight inspections of aircraft for fluid leakage	96
A0024 Participate in maintenance debriefings	96
E0145 Operate or monitor APU or GTC bleed-air systems	94
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	94
H0260 Operate or monitor pressurization systems	94
G0221 Perform preflight inspections of batteries or battery relays	94
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	93
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	93
A0018 Open or close crew entrance doors	93
H0253 Operate or monitor air-conditioning systems	92
B0058 Apply external alternating current (AC) or direct current (DC) power to aircraft	92
A0020 Operate emergency escape hatches	92
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	92
I0295 Perform preflight inspections of primary flight control systems	92
C0096 Compute climb, cruise, or descent data	91
I0294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	91
H0233 Analyze air-conditioning systems malfunctions	91
G0224 Perform preflight inspections of electrical power systems	91
E0153 Perform preflight inspections of APU or GTC fire detection systems	91
N0432 Monitor engine instrument systems operations	90
N0441 Operate or monitor engine fuel systems	90
G0226 Perform preflight inspections of interior or exterior lighting systems	90
H0234 Analyze anti-ice systems malfunctions	90
N0430 Monitor engine exhaust gas temperatures (EGTs) or turbine inlet temperature (TIT) sections operations	90
H0257 Operate or monitor environmental bleed-air systems	90
K0358 Perform preflight inspections of LDG brake or antiskid systems	90
I0296 Perform preflight inspections of secondary flight control systems, such as trim systems	89
E0146 Operate or monitor APU or GTC electrical systems	89
H0254 Operate or monitor anti-ice systems	89
H0259 Operate or monitor oxygen systems	89
B0059 Coordinate maintenance requirements with crew chiefs	89
E0151 Perform preflight inspections of APU or GTC bleed-air systems	89
H0274 Perform preflight inspections of oxygen systems	89
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	88

* Average Number of Tasks Performed -272

found in Attachment 2, AETCI 36-2601, Occupational Analysis Program, and allows course personnel to quickly focus attention on those tasks which are most likely to qualify for resident course consideration.

Table 50 presents tasks with the highest TE ratings for AFSC 1A1X1C 1-24 and 1-48 month TICF groups, while Table 51 displays those tasks AFSC 1A1X1C raters judged to be most difficult to learn. For example, TE raters (refer to Table 50) reported that tasks such as computing takeoff and landing data requires a high degree of training emphasis and, from the data, a high percentage of airmen in their first 48 months are performing this task. Table 51 shows TD raters reported performing functional check flight (FCF) duties to be among the most difficult tasks to learn. This task has a low percent member performing value and a low training emphasis rating. Conversely, a higher percentage of personnel interpret wiring or system schematic diagrams, which has a high task difficulty and a high training emphasis value.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the **TRAINING EXTRACT** package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

JOB SATISFACTION ANALYSIS

An examination of job satisfaction indicators can give career ladder managers a better understanding of factors that may affect the job performance of career ladder airmen. Questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in survey booklets to provide indications of job satisfaction.

An indication of how job satisfaction perceptions have changed over time is provided in Table 52, where TICF data for the current survey respondents are presented, along with data from the last occupational survey report. Reviewing this table, current survey satisfaction ratings indicate similar job satisfaction for all three TICF groups for most indicators. The most notable exception is the reenlistment intentions for all three groups. Reenlistment intentions for all TICF groups are much lower than the 1995 survey. There is an alarming decline in reenlistment intentions, particularly for the 49-96 TICF group where the current survey shows a 19 percent decrease from the previous survey. The career group also has a 17 percent decline in reenlistment intentions for the current study, while the 1-48 TICF group sees a 18 percent decrease.

In Table 53, review of the job satisfaction data for personnel in the specialty jobs identified in this survey reveals that airmen responded very positively to all the indicators.

TABLE 50

TASKS RATED HIGHEST IN TRAINING EMPHASIS

TASKS	PERCENT MEMBERS PERFORMING			
	TNG EMP (N=141)	1-24 TICF (N=141)	1-48 TICF (N=215)	TSK DHF (N=215)
C100 Compute takeoff and landing data (TOLD)		8.07	99	98
C92 Compute aircraft emergency performance data		7.24	84	86
J311 Monitor fuel consumption		7.02	88	88
A52 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	6.93	93	94	3.49
C96 Compute climb, cruise, or descent data	6.91	92	91	5.40
H253 Operate or monitor air-conditioning systems	6.85	92	92	4.75
I295 Perform preflight inspections of primary flight control systems	6.85	91	92	5.10
H257 Operate or monitor environmental bleed-air systems	6.80	89	90	4.78
H260 Operate or monitor pressurization systems	6.80	95	94	5.24
A19 Operate emergency equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	6.74	82	84	3.54
Q522 Perform, practice, or simulate LDG emergency extension procedures	6.74	80	81	5.95
I294 Perform preflight inspections of auxiliary flight control systems, such as flaps, spoilers, or slats	6.72	91	91	5.05
E145 Operate or monitor APU or GTC bleed-air systems	6.59	93	94	4.55
Q512 Perform, practice, or simulate electrical system emergency procedures	6.59	77	80	6.14
B59 Coordinate maintenance requirements with crew chiefs	6.57	87	89	4.13
B58 Apply external alternating current (AC) or direct current (DC) power to aircraft	6.54	91	92	3.75
A40 Perform preflight inspections of cockpit or cabin compartments	6.54	95	97	4.94
H268 Perform preflight inspections of environmental bleed-air systems	6.52	85	85	5.06

* Average TE Rating is 3.21, Standard Deviation is 2.00
** Average TD Rating is 5.00

TABLE 51

TASKS RATED HIGHEST IN TASK DIFFICULTY

TASKS	PERCENT MEMBERS PERFORMING				
	1-24 TASK DIFF	TICF (N=141)	1-48 TICF (N=215)	1A151C (N=331)	1A171C (N=348)
A32 Perform functional check flight (FCF) duties	7.29	21	22	25	47
B68 Interpret wiring or system schematic diagrams	7.06	72	71	70	78
B75 Perform hostile environment repairs	7.05	33	34	36	32
P497 Perform special operations low-level (SOLL) operations	6.94	4	7	7	13
P490 Perform low-altitude parachute extraction system (LAPES) operations	6.93	1	2	2	.85
P494 Perform remote site landings or take-off	6.92	22	23	24	2
F175 Interpret terminal enroute procedures (TERPs)	6.82	30	35	38	.24
P491 Perform mid-air retrieval system (MARS) operations	6.79	1	1	1	20
P492 Perform night vision goggle operations	6.68	31	32	36	33
O496 Recommend or perform corrective actions after analyses of propeller systems malfunctions	6.68	30	33	39	1.20
P488 Perform hurricane or typhoon penetration operations	6.68	2	2	2	1.89
O468 Perform unscheduled maintenance on propeller systems	6.67	13	13	13	0
C93 Compute aircraft performance data for nonstandard configurations	6.66	69	71	73	.37
B76 Perform hot refueling or defueling operations	6.65	20	20	19	.93
P486 Perform flight tests for new flight procedures or equipment validations	6.62	2	3	7	24
G213 Analyze electrical systems malfunctions, other than APU or GTC electrical systems or special system buses	6.57	82	87	89	.41
B70 Jack or level aircraft	6.55	6	4	4	.61
I297 Perform unscheduled maintenance on flight control systems	6.49	16	20	20	.61
G231 Recommend or perform corrective actions after analyses of electrical systems malfunctions	6.49	60	67	72	.11
H243 Analyze pressurization system malfunctions	6.47	81	76	88	2.57
M399 Analyze rotodome drive mechanism systems malfunctions	6.46	11	12	10	.72
F167 Analyze fuel savings advisory systems (FSAS)	6.44	21	24	23	.33
R565 Draft host-tenant or interservice agreements	6.43	1	1	1	.17

* Average TD Rating is 5.00

TABLE 52

COMPARISON OF CURRENT SURVEY AND PREVIOUS SURVEY BY TICF GROUPS
(PERCENT MEMBERS RESPONDING)

		1-48 MOS TICF		49-96 MOS TICF		97+ MOS TICF	
		1999 1A1X1C (N=215)	1995 1A1X1C (N=289)	1999 1A1X1C (N=176)	1995 1A1X1C (N=306)	1999 1A1X1C (N=356)	1995 1A1X1C (N=477)
<u>EXPRESSED JOB INTEREST:</u>							
INTERESTING	94	96	89	94	94	85	88
SO-SO	5	3	8	4	2	9	8
DULL	1	1	3	2	4	6	4
<u>PERCEIVED UTILIZATION OF TALENTS:</u>							
FAIRLY WELL TO PERFECTLY	95	97	91	96	96	90	92
LITTLE OR NOT AT ALL	5	3	9	4	4	10	8
<u>PERCEIVED UTILIZATION OF TRAINING:</u>							
FAIRLY WELL TO PERFECTLY	98	99	94	96	96	92	94
LITTLE OR NOT AT ALL	2	1	6	4	4	8	6
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>							
SATISFIED	90	95	82	90	90	78	80
NEUTRAL	5	2	7	4	4	7	5
DISSATISFIED	5	3	11	6	6	15	15
<u>REENLISTMENT INTENTIONS:</u>							
YES, OR PROBABLY YES	70	88	65	84	84	47	64
NO, OR PROBABLY NO	25	10	24	6	6	7	9
PLAN TO RETIRE	5	2	11	10	10	46	27

TABLE 53

COMPARISON OF JOB SATISFACTION INDICATORS BY ACTIVE DUTY SPECIALTY JOBS
(PERCENT MEMBERS RESPONDING)

	ACTIVE DUTY FLIGHT ENGINEER (N=731)	ANG FLIGHT ENGINEER (N=275)	AFRC FLIGHT ENGINEER (N=353)
<u>EXPRESSED JOB INTEREST:</u>			
INTERESTING	89	97	95
SO-SO	7	1	4
DULL	3	1	1
<u>PERCEIVED UTILIZATION OF TALENTS:</u>			
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	92 8	96 4	97 3
<u>PERCEIVED UTILIZATION OF TRAINING:</u>			
FAIRLY WELL TO PERFECTLY LITTLE OR NOT AT ALL	95 5	99 1	98 2
<u>SENSE OF ACCOMPLISHMENT GAINED FROM WORK:</u>			
SATISFIED	82	93	92
NEUTRAL	7	3	3
DISSATISFIED	11	4	5

IMPLICATIONS

As explained in the **INTRODUCTION**, this survey was conducted primarily to ensure current data for use in evaluating the effectiveness of training within the Flight Engineer (Performance Qualified) specialty. The data compiled from this survey shows that the 1A1X1C personnel follow an atypical career progression pattern. Although personnel are performing more supervisory tasks at the 9- and CEM skill level, the majority of their time is spent performing the technical tasks for the 1A1X1C career field. The present classification structure, as described in AFMAN 36-2108 *Airman Classification*, accurately portrays the jobs in this study.

Job satisfaction data indicate first-assignment AFSC 1A1X1C personnel are as satisfied with their jobs than the comparative sample in all areas except reenlistment intentions. No serious job satisfaction problems appear to exist in the remainder of the TICF groups.

The findings of this OSR come directly from survey data collected from AFSC 1A1X1C personnel worldwide.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED
BY MEMBERS OF CAREER LADDER JOB

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE I

FLIGHT ENGINEER – PERFORMANCE QUALIFIED
(ST017)

GROUP SIZE: 1354

AVERAGE TICF: 9 YRS

PERCENT OF SAMPLE: 98%

PREDOMINANT GRADE: E-5

AVERAGE NUMBER OF TASKS PERFORMED: 327

THE FOLLOWING TASKS ARE IN DESCENDING ORDER OF PERCENT MEMBERS PERFORMING:

REPRESENTATIVE TASKS	PERCENT MEMBERS PERFORMING
A0040 Perform preflight inspections of cockpit or cabin compartments	99
C0100 Compute takeoff and landing data (TOLD)	99
A0037 Perform preflight inspections of aircraft for fluid leakage	98
A0052 Review AFTO Forms 781-series, Aircraft Discrepancy, Inspection, and Maintenance Records	97
A0038 Perform preflight inspections of aircraft panels, locks, or fasteners	96
A0003 Brief aircraft commander or maintenance personnel on aircraft systems malfunctions	96
H0253 Operate or monitor air-conditioning systems	96
H0260 Operate or monitor pressurization systems	96
A0057 Verify safety pins and streamers are removed prior to flight or installed after flight	96
E0145 Operate or monitor APU or GTC bleed-air systems	95
H0274 Perform preflight inspections of oxygen systems	94
H0254 Operate or monitor anti-ice systems	94
G0215 Monitor transformer rectifier (TR) systems operations	94
G0221 Perform preflight inspections of batteries or battery relays	93
A0044 Perform preflight inspections of or position emergency, life support, survival, or personal equipment, such as parachutes, oxygen bottles, fire extinguishers, first-aid kits, crash axes, or ropes	93
A0023 Participate in crew operations debriefings	93
J0316 Operate or monitor fuel flow or transfer systems	93
A0042 Perform preflight inspections of emergency exit systems	93
G0229 Perform preflight inspections of wiring, circuit breakers, or control panels	92
K0367 Perform preflight inspections of LDG tires	92
E0153 Perform preflight inspections of APU or GTC fire detection systems	92
K0348 Monitor LDG position indicators	91

THIS PAGE INTENTIONALLY LEFT BLANK